

Retroactivity at the Federal Circuit

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A substantial subset of patent opinions from the Federal Circuit Court of Appeals functions in a wholly different manner from ordinary judicial opinions: they have strong retroactive effects with weak prospective effects. All Federal Circuit opinions have strong retroactive effects because issued patents and pending applications rarely can be modified. The Federal Circuit decisions apply in full to these patents and applications, even though they were prepared without the benefit of the rulings. In contrast, many of these opinions have almost no prospective effects. Patent law provides tremendous linguistic flexibility to patent drafters, which can be used to avoid the holdings of many (but not all) opinions. Patent drafters can freely choose any words to describe and claim the invention in the patent application. Patentees carefully draft new applications, aware of the decisions, to avoid their holdings. If the Federal Circuit holds that a certain phrase necessitates a bad result, patent lawyers substitute equivalent uncontaminated language in its place in future applications. The prospective effects of these opinions are muted because of the linguistic flexibility in drafting applications. Issued patents cannot be effectively modified; consequently, they are strongly affected by Federal Circuit decisions.

There are substantial costs to the Federal Circuit's actions. First, patent prosecutors are excessively cautious and spend extra time drafting claims and patent specifications to lower the risk of future changes in the law. This increases costs while still not substantially eliminating the problem. More troubling, the retroactive opinions weaken the incentive to innovate because the added uncertainty in the procurement process makes patent rights insecure. It thereby diminishes the value of patents. As their value decreases, patents cannot fully advance technological progress, as the Constitution urges. A counterintuitive solution—reducing the use of precedential opinions—can mitigate the retroactivity problem.

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INTRODUCTION

Unlike other areas of law, many judicial opinions in patent law have *only* retroactive—and not prospective—effects. The Federal Circuit Court of Appeals, the appellate court tasked with deciding patent appeals, has frequently startled the patent law community with apparently run-of-the-mill rulings that substantially alter the value of previously issued patents. These decisions often change how lower courts must construe patent claims that have already been written, evaluate the propriety of behavior during patent prosecution that has already occurred, determine the validity of patents that have already issued, or assess the infringement by products that have already been sold. Not all patent opinions fall within this category. Some cases, such as *KSR International Co. v. Teleflex Inc.*,¹ altered legal rules or standards in a manner which largely cannot be drafted around.² But an unfortunately high number do. For example, a particular style of patent claiming, known as means-plus-function format, was historically considered the broadest way to articulate the scope of an invention.³ In the early 1990s, the Federal Circuit held that means-plus-function claim terms were to be construed narrowly.⁴ Instantaneously, numerous issued patents became less valuable.

However, for patent applications that are filed prospectively, after the date of a decision, educated patentees in many cases can avoid the holdings of the decision without losing patent value. Patent attorneys can utilize tremendous flexibility describing and claiming the invention in a patent application. Patent attorneys routinely engage in “artful drafting” to use the right words, making the impact of the rule change effectively nil.⁵ This near complete linguistic flexibility is rather

1. 550 U.S. 398 (2007).

2. *KSR* made it easier for the courts and the U.S. Patent and Trademark Office (“Patent Office”) to determine that a claim is obvious. *Id.* This sort of change cannot be overcome by mere wordsmithing.

3. See David W. Brownlee, *The Scope of Equivalents Under 35 U.S.C. § 112 ¶ 6 Should Vary Depending on Importance of the Means-Plus-Function Recitation to the Invention as a Whole*, 81 J. PAT. & TRADEMARK OFF. SOC’Y 451, 454 (1999).

4. *Valmont Indus., Inc. v. Reinke Mfg., Co.*, 983 F.2d 1039, 1042 (Fed. Cir. 1993).

5. Others have referred to the process of patent lawyers using words previously blessed

unique to patent law. If a Federal Circuit opinion finds particular language to be limiting, then the attorney will substitute an effective alternative. For instance, the Federal Circuit found that use of the phrase according to one “object of the present invention” in a patent specification was disadvantageous.⁶ Thereafter, patent attorneys replaced the disfavored language with an untainted equivalent phrase such as “in accordance with one embodiment of the invention.”⁷ The ability to easily vary the language used in patent documents effectively renders the prospective effect of many Federal Circuit decisions as minor. However, as mentioned above, judicial decisions can have dramatic effects on issued patents. For these patents, most or all of the relevant activity—drafting the specification and interacting with the U.S. Patent Office—has already occurred, and consequently is unchangeable. In other areas of law—take zoning for example—new zoning restrictions encumber prospective new uses of the property and cannot be evaded by mere linguistic changes.⁸

The Federal Circuit rarely, if ever, mentions the retroactive effects of its opinions. Of course, the Federal Circuit knows that some of its highly publicized decisions have significant effects on issued patents. The Federal Circuit’s problem is that many routine panel decisions also affect issued patents while escaping significant attention. In fact, other courts pay substantial attention to retroactivity. The Supreme Court and regional circuits have developed an elaborate doctrine concerning retroactivity in other areas of law, with criminal law being most prominent. Even when dealing with patent law, the Supreme Court appears to conscientiously ponder potential retroactive effects of its cases.⁹ The holdings of ordinary Federal Circuit decisions may be just as disruptive to the patent community as a Supreme Court or significant en banc decision.

Retroactivity in patent law is important because patents are an integral part of the U.S. economy. The retroactive Federal Circuit opinions have costs. They result in excess caution by patent prosecutors who spend extra time drafting claims and patent specifications, frequently including superfluous information to guard against future changes in the law. More troubling from a policy perspective, the retroactive opinions may dampen the incentive to innovate because added uncertainty in the patent procurement process diminishes the value of patents. If patents are worth less, they provide less enticement to inventors to create new inventions, and encouraging the “Progress of Science and useful Arts” is the constitutionally

by the Federal Circuit as the “doctrine of the magic words.” Julie E. Cohen & Mark A. Lemley, *Patent Scope and Innovation in the Software Industry*, 89 CALIF. L. REV. 1, 9 (2001).

6. *Gentry Gallery, Inc. v. Berkline Corp.*, 134 F.3d 1473, 1479 (Fed. Cir. 1998).

7. See Benjamin Hattenbach, Andrei Iancu & Kenneth Weatherwax, *Patent Prosecution Pitfalls: Perspectives from the Trenches of Litigation*, 92 J. PAT. & TRADEMARK OFF. SOC’Y 340, 362 (2010); Jason Fischer, *Patent Language: “The Present Invention” Versus “An Embodiment of the Present Invention,”* TACTICAL IP (Nov. 25, 2009, 9:30 AM), <http://tacticalip.com/2009/11/25/patent-language-the-present-invention-versus-an-embodiment-of-the-present-invention/>.

8. See Christopher Serkin, *Existing Uses and the Limits of Land Use Regulations*, 84 N.Y.U. L. REV. 1222, 1232–34 (2009).

9. See, e.g., *Festo Corp. v. Shoketsu Kinzoku Kogyo Kabushiki Co.*, 535 U.S. 722, 739 (2002).

charged purpose of the patent laws, and one which should be of primary concern to the Federal Circuit.¹⁰

This Article examines prospectivity and retroactivity in patent law in detail. Part I explains how prospectivity and retroactivity are more of a problem in patent law than other areas of law. It provides numerous examples of Federal Circuit opinions that have significantly altered the value of patents. Part II discusses why the Federal Circuit apparently fails to adequately consider these substantial retroactive effects. Part III considers a variety of possible solutions to the retroactivity problem to determine what, if anything, can be done to reduce retroactive effects.

I. RETROACTIVITY AND PROSPECTIVITY AS A PARTICULAR PROBLEM IN PATENT LAW

This Part explains the problem of prospectivity and retroactivity in patent law in detail. It then provides numerous Federal Circuit decisions as examples of panel opinions which rattled patent lawyers, retroactively affecting issued patents while permitting future patentees to completely evade all effects.

A. Why Retroactivity Is a Problem in Patent Law

Retroactivity is a potential problem in all areas of law¹¹ and is a particular problem in patent law. The problem, however, is not that court opinions have retroactive effects. That is commonly true in civil litigation.¹² The main problem is that many patent opinions have only retroactive effects and no prospective effects.

1. The Minimal Prospective Effects of Decisions

Every Federal Circuit decision that clarifies or refines the patent laws has potential effects. A substantial amount of these opinions have little if any prospective effect, only retroactive effect. By little prospective effect, I mean that, going forward, lawyers can simply and easily avoid the holding of opinions without any change in future patent rights. Obviously, these opinions cause lawyers to adjust their practices (prospectively) to avoid the opinions, but importantly there is no prospective effect on the patent rights. This is because patent lawyers (1) understand the current state of the law, (2) draft patent applications in view of the current law, and (3) alter their behavior promptly after changes in the law. For these reasons, patent lawyers can make nonsubstantive changes to an application,

10. U.S. CONST. art. I, § 8, cl. 8.

11. In the common law evolution of general tort doctrine, retroactivity has been accepted. Gary T. Schwartz, *New Products, Old Products, Evolving Law, Retroactive Law*, 58 N.Y.U. L. REV. 796, 816–18 (1983). Others have argued that retroactive application of legal changes can be desirable. See, e.g., Louis Kaplow, *An Economic Analysis of Legal Transitions*, 99 HARV. L. REV. 509, 551 (1986).

12. Donald T. Hornstein, *Resiliency, Adaptation and the Upsides of Ex Post Lawmaking*, 89 N.C. L. REV. 1549, 1551 (2011) (arguing that retroactivity is “not only tolerated but sometimes celebrated” in some areas of law).

thereby completely evading a Federal Circuit opinion.¹³ These nonsubstantive changes do not change the original invention or meaningfully add to the public disclosure function of patents. To be sure, by definition, precedential Federal Circuit opinions articulate the patent doctrine. In that sense, they reflect the law and have prospective effects. However, for the reasons just discussed, in many cases these prospective effects rarely come to be because of lawyer behavior.

Drafting and prosecuting patent applications is a highly specialized art. The application must comply with various statutory requirements, such as enablement, best mode, and written description.¹⁴ Furthermore, all utility patent applications must conclude with at least one claim, which describes the invention in words.¹⁵ Both the detailed description in the specification and the patent claims are subject to numerous detailed and technical legal and Patent Office requirements.¹⁶ Despite these requirements, there is enormous flexibility provided to patent applicants in all of the words to use in their patent applications.¹⁷

From all of these methods, patent lawyers ascertain the legal changes and learn the rules for patent prosecution.¹⁸ They understand what language to use (and not use) in patent applications. They understand what items are required to be disclosed to the Patent Office during patent prosecution. Therefore, patent lawyer actions usually take into account the effects of any decision which changes the law, provided that there was sufficient time for the decision to be processed by the lawyer.¹⁹

13. Most routine Federal Circuit cases can be avoided prospectively by providing careful attention to drafting the patent application. However, not all cases fall within this category. For example, *KSR International Co. v. Teleflex Inc.* changed the rules so that some patent claims became obvious. 550 U.S. 398, 419–20 (2007). Semantic changes to the claims cannot undue or alter this effect. Similarly, the Federal Circuit’s en banc recitation of an exclusive machine-or-transformation test in *In re Bilski* also excluded certain inventions from patentable subject matter in a manner which couldn’t be evaded. 545 F.3d 943, 959–60 (Fed. Cir. 2008). The Supreme Court later found that the Federal Circuit’s test was unduly narrow. *Bilski v. Kappos*, 130 S. Ct. 3218, 3226–27 (2010).

14. 35 U.S.C. § 112(a) (2006 & Supp. 2011).

15. *Id.* § 112(b).

16. See generally MPEP chs. 600 & 2100 (8th ed. Rev. 7, Sept. 2008) (describing “Parts, Form, and Content of Application,” which focuses on the patent specification, and “Patentability,” which focuses on the patent claims).

17. Joseph Scott Miller, *Enhancing Patent Disclosure for Faithful Claim Construction*, 9 LEWIS & CLARK L. REV. 177, 184 (2005) (“Patentees, who are responsible for the text in their claims, can choose words of greater or lesser generality to define their inventions . . .”).

18. For a discussion of patent drafting norms, see John M. Golden, *Construing Patent Claims According to Their “Interpretive Community”: A Call for an Attorney-Plus-Artisan Perspective*, 21 HARV. J.L. & TECH. 321, 334–45 (2008).

19. It is an interesting question whether rule-like aspects of patent law are more likely to have retroactive-only effects, as compared to standard-like aspects of patent law. Others have argued that, in other contexts, rules are easier to avoid prospectively. See, e.g., David A. Weisbach, *Formalism in the Tax Law*, 66 U. CHI. L. REV. 860, 860 (1999) (arguing that the rule-oriented approach of the tax laws makes it easier for taxpayers to manipulate the law).

For several reasons, patent lawyers armed with knowledge of the law can successfully ameliorate the impact of many cases.²⁰ If certain language or approaches are held to render a patent invalid or of narrow scope, patent lawyers will utilize alternative language to avoid the ruling.²¹ Evasion is possible in part because patent lawyers select all of the language to include in a patent application, including all of the language used in the claims.²² So when a word or phrase is interpreted as limiting, the attorney simply chooses another word. For instance, the Federal Circuit may rule that claims using the phrase “adapted to receive” are limited for some reason. In response, lawyers will select equivalent language such as “configured to receive” or “capable of receiving” into new claims.²³ And the law

20. Patent lawyers understand the law because they and their clients read the opinions from the Federal Circuit. When they do not read the opinions themselves, they frequently receive summaries of them through various sources including the popular Patently-O website. PATENTLY-O, <http://patentlyo.com>. Law firms distribute “client updates” and there are numerous continuing legal education programs about patent prosecution topics. For example, Practising Law Institute (PLI) regularly offers programs throughout the country on patent law. See, e.g., David E. Boundy, *Maximizing Patent Value by Effective Prosecution*, in *ADVANCED PATENT PROSECUTION WORKSHOP 2008: CLAIM DRAFTING & AMENDMENT WRITING 411* (Practising Law Institute ed., 2008). Many law firms provide client case law updates electronically. See, e.g., *IP Update*, Vol. 17, No. 2, February 2014, MCDERMOTT WILL & EMERY, <http://www.mwe.com/IP-Update-Vol-17-No-2-February-2014-02-26-2014/>. Patent prosecutors at law firms frequently have scheduled brown bag lunches to discuss important changes in the law as it relates to patent prosecution.

21. Cohen & Lemley, *supra* note 5, at 9 (noting that practitioners have used the “doctrine of the magic words” to draft claims covering software).

22. In addition to the applicable legal and Patent Office requirements, the patent lawyer community has informally adopted various preferred manners of drafting patent applications. The specification and claims are often prepared according to these norms of the patent lawyer community. This is not to suggest that there is a single accepted style. The patent prosecutor community is diverse. There is likely some variation in style and practice based on both firm size (solo practitioner versus law firm) and perhaps the age of the patent attorney. Patent lawyers learn these norms from others, including most notably their colleagues. At law firms and corporations, patent lawyers are trained by more senior attorneys in how to properly draft patent applications. Through this process, with senior attorneys reviewing and revising draft applications provided by junior attorneys, knowledge is easily transferred within members of the community. Bradley C. Wright & H. Wayne Porter, *Drafting the Winning Patent*, in *DRAFTING PATENTS FOR LITIGATION AND LICENSING 147, 200* (Bradley C. Wright ed., 2008) [hereinafter *DRAFTING PATENTS*] (advocating having a second attorney review patent applications). In addition, because issued patents are public (and, since 2000, most applications have been published as well), lawyers can read the work product of other attorneys. Both of these reinforce the norms of patent application drafting in the community.

23. To see the rapid rise in the use of “configured to” in patent claim language, see Dennis Crouch, *What Does It Mean for a Device to be “Configured to” Perform a Particular Function?*, PATENTLY-O (Jan. 22, 2014), <http://patentlyo.com/patent/2014/01/what-does-it-mean-for-a-device-to-be-configured-to-perform-a-particular-function.html> (reporting that less than 3% of independent claims of patents issued in 1995 used “configured to,” while over 25% of independent claims of patents issued in 2012 did).

supports this—patentees are expressly permitted to be their own lexicographers.²⁴ Thus, patent prosecutors can frequently avoid legal changes, as long as they can modify the specification, the claims, and the prosecution process. The key is the flexible linguistics permitted in patent law.²⁵ Obviously, some high profile patent cases such as *KSR v. Teleflex* changed the law in ways which cannot be avoided.²⁶ But many, many Federal Circuit decisions are capable of being overcome by inconsequential semantic changes.²⁷

The brunt of the effect of these Federal Circuit decisions is therefore borne by issued patents and then-pending applications. That is because these issued patents and already-filed applications cannot take advantage of the evasion techniques previously discussed.²⁸ For these issued patents, the specification has already been drafted and examined.²⁹ The claims have already been drafted, frequently amended during prosecution, and examined.³⁰ No changes are possible.³¹ Patents that were drafted and prosecuted fully compliant with the law as it then existed may be found invalid or narrowly construed because of subsequent case law.³² This group of patents is fully, and perhaps unfairly, subjected to the new case law, and these patents are subject to the changes in the law.

2. The Harm Caused by Retroactivity in Patent Law

Retroactivity in patent law is important and causes many problems. It makes the practice of law by patent attorneys (and agents) more difficult. It increases the risk of an allegation of malpractice, as clients are upset when patents are less valuable than expected. The retroactive effects on existing patents are more important in many respects than the effects on future patents because investors and corporate

24. See *CCS Fitness, Inc. v. Brunswick Corp.*, 288 F.3d 1359, 1366 (Fed. Cir. 2002).

25. For an interesting discussion of linguistics as it relates to patent claim construction, see Kristen Osenga, *Linguistics and Patent Claim Construction*, 38 RUTGERS L.J. 61 (2007).

26. As discussed, *supra* note 13, *KSR* made it easier for the courts and Patent Office to determine that a claim is obvious. This sort of change cannot be overcome by mere wordsmithing.

27. See *infra* Part I.C.

28. See Rouget F. Henschel & Michael D. Kaminski, *The State of the Law of Claim Construction and Infringement*, in *DRAFTING PATENTS*, *supra* note 22, at 1, 5 (noting that serious errors in the specification are not correctable). Reissue and reexamination provide some very limited relief. See *infra* notes 53–54.

29. See MPEP § 2163 (8th ed. Rev. 7, Sept. 2008).

30. See *id.* § 714.

31. As discussed in more detail, *infra* Part II.B, reissue, in certain circumstances, allows a patentee to modify patent claim language as long as the reissue application is filed within two years of issuance of the patent. See also 35 U.S.C. § 251(d) (2006 & Supp. 2011). However, reissue alone is insufficient to overcome the problems with retroactivity. The two-year window is short relative to the duration of the patent. Furthermore, even during the timeframe which a broadening reissue is available, no “new matter” may be added. *Id.* Thus, new claim language or specification details not provided in the original application are not permitted. Separately, continuation applications permit modified claim language, although they are limited by the no new matter requirement.

32. In a smaller set of cases, some patents benefit from a favorable ruling.

decision makers frequently rely upon the then-existing law in deciding whether to finance and engage in the patenting process.³³

Furthermore, patent lawyers attempt to plan ahead to cover for contingencies.³⁴ They do so by over-drafting the specification or the claims.³⁵ Additional embodiments are provided or additional claims using different language are included merely as a hedge against future law changes.³⁶ Applications with more claims require more time for the Patent Office to examine, further increasing costs to the system. In addition, applicants also file continuation applications to permit future modification of the claims.³⁷ These costs are caused in part by the Federal Circuit's propensity to issue opinions with retroactive repercussions. These actions are an attempt, only sometimes effective, at reducing the likelihood of retroactive effects. Federal Circuit decisions arguably move the law in unexpected directions, and lawyers have difficulty predicting these developments. These excessive costs are inefficient to the patent system.³⁸

Finally, the incentive to innovate may be harmed.³⁹ The constitutional policy behind the patent laws is that patents encourage innovation.⁴⁰ Opinions with solely retroactive effects lower the value of patents for certain investors and companies, namely those who were unlucky enough to be on the wrong side of the rule changes. Even though the investors and companies cannot predict whether their patents will be affected, they understand that their patents are more probabilistic. This, of course, adds considerable uncertainty to the patenting process, which may discourage some innovators from seeking patent protection in the first instance.⁴¹

33. Stuart J.H. Graham, Robert P. Merges, Pam Samuelson & Ted Sichelman, *High Technology Entrepreneurs and the Patent System: Results of the 2008 Berkeley Patent Survey*, 24 BERKELEY TECH. L.J. 1255, 1304–09 (2009) (reporting empirical data showing that patents are important to investors).

34. Hattenbach, et al., *supra* note 7, at 340 (“Those writing patents must recognize the various uncertainties, embrace them, and take steps that will improve the odds of prevailing in litigation in spite of them.”).

35. *Id.* at 341–42.

36. See Christopher A. Cotropia, *Patent Claim Interpretation Methodologies and Their Claim Scope Paradigms*, 47 WM. & MARY L. REV. 49, 131–32 (2005).

37. There are many other reasons that continuation applications are filed. Retroactivity does not alone explain the use of continuations. See, e.g., Steve Blount, *The Use of Delaying Tactics to Obtain Submarine Patents and Amend Around a Patent that a Competitor Has Designed Around*, 81 J. PAT. & TRADEMARK OFF. SOC'Y 11, 12–13 (1999).

38. To be fair, much of the cost of patent prosecution is not due to retroactivity. Instead, it is because of the uncertainties of claim construction, as well as the uncertainties of the structures and functions of future developed competitive products. These uncertainties require patent prosecutors to attempt to draft numerous claims to cover varying scope.

39. Kelly Casey Mullally, *Legal (Un)Certainty, Legal Process, and Patent Law*, 43 LOY. L.A. L. REV. 1109, 1113 (2010) (stating that uncertainty in the patent system reduces the incentives to innovate). By innovate, I mean inventing (not commercializing) things.

40. U.S. CONST. art. I, § 8, cl. 8.

41. Mullally, *supra* note 39, at 1112–13. However, some argue that some degree of uncertainty may be beneficial to the patent system. Ian Ayers & Paul Klemperer, *Limiting Patentees' Market Power Without Reducing Innovation Incentives: The Perverse Benefits of Uncertainty and Non-Injunctive Remedies*, 97 MICH. L. REV. 985, 987–89 (1999).

The consistent flow of cases with retroactive effects reduces the predictability of patent rights.⁴² Thus, the upsides of patenting are lowered, which likely drops the incentives for people to engage in activities that result in patentable inventions.

B. Potential Objections to Retroactivity and Minimal Prospectivity as a Problem

Some may object and claim that retroactivity is not a particular problem in patent law. Their argument would be that retroactivity occurs in all areas of law and that it is a necessary consequence of any common law system.⁴³ More specifically, they may assert that it occurs in real property law too.⁴⁴ For the reasons that follow, this objection is misplaced.

First, the Federal Circuit plays a central role in patent law unlike courts in other areas of law. Because almost all appeals from patent-related matters are heard by the Federal Circuit, its rulings are of extreme importance.⁴⁵ The Federal Circuit's opinions are binding on all of the district courts and the Patent Office, as well as the International Trade Commission and the United States Court of Federal Claims.⁴⁶ Thus, changes in patent law have magnified effects. In contrast, real property law decisions are traditionally matters of state law.⁴⁷ Consequently, even if a state changes its real property law with substantial effects (which I believe occurs rarely), the effects are limited to one state. Another difference between patent law and other property law is the frequency with which decisions with substantial retroactive effects are issued. At its core, this is an empirical question and there is no hard empirical data on this point. The Federal Circuit on occasion has acknowledged that changes in patent law are frequent.⁴⁸ While further analysis is

42. The effects of retroactive decisions on patentees may be evenly felt. Some would argue that this means that the effects are inconsequential. If all patents are equally likely to be harmed by a particular decision, then large patentees may be somewhat insulated. These entities have extensive patent portfolios. If the Federal Circuit decisions are essentially random, then having a large holding of patents means that some of their patents will be affected while others will not. This would be especially true if the patents were drafted and prosecuted by a range of lawyers and law firms, each utilizing slightly different prosecution norms.

43. See, e.g., Hornstein, *supra* note 12, at 1551 (arguing that retroactivity is “not only tolerated but sometimes celebrated” in some areas of law); Harold J. Krent, *The Puzzling Boundary Between Criminal and Civil Retroactive Lawmaking*, 84 GEO. L.J. 2143, 2145 (1996).

44. See Krent, *supra* note 43, at 2156. Patent law is quite different from real property law in a key respect: its constitutional purpose. The Constitution authorizes the patent laws to encourage innovation. To properly encourage innovation, the patent system must be predictable. Patent rights must be as predictable as possible *ex ante* so that companies know what innovations are patentable and how to protect them. There is no similar constitutional purpose for real property or other laws.

45. See 28 U.S.C. § 1295(a)(2)–(4) (2006).

46. See *id.* § 1295(a)(2)–(6).

47. See generally Frank S. Alexander, *Federal Intervention in Real Estate Finance: Preemption and Federal Common Law*, 71 N.C. L. REV. 293, 293 (1993).

48. *Festo Corp. v. Shoketsu Kinzoku Kogyo Kabushiki Co.*, 344 F.3d 1359, 1376 (Fed. Cir. 2003) (en banc) (Rader, J., concurring) (“To make my point clearer, much of the

desirable, I believe that major changes to a state's property laws occur less frequently. And retroactive problems in patent law are important as patents currently are in effect for twenty years from their filing date.⁴⁹

Second, the lack of insurance for patents magnifies the effects. In the real property arena, private insurance companies can reduce or eliminate the risks to property holders of changes in the law. For example, title insurance can be used to guarantee that title is clear, regardless of whether the law subsequently changes in a way that muddies the title.⁵⁰ In contrast, there is no analogous insurance for patents. When a retroactive change in the patent laws occurs, the patent holder bears all of the cost.

Third, self-help is possible in other areas of law. Moving beyond real property law, consider contract law. Take a court, for example, which rules that a particular clause is to be given a meaning that was not anticipated by the parties. Even if there are many contracting parties outside the litigation who used the identical language, they are permitted to renegotiate. Thus, a party relying upon a form contract with all vendors can approach the vendors and amend the contract, even in the event a court rules that certain language was problematic. Renegotiation allows the parties to recalibrate the deal to correspond to any legal change. To be fair, renegotiation may not always occur, even in contract law. Parties may be difficult to locate, or they may not wish to renegotiate (or may insist upon a high price to alter the contract). But renegotiation is an option. In patent law, the patent cannot be renegotiated in the same way. Once a patent has issued, with the limited exception of reissue or reexamination, which is addressed immediately below, it cannot be altered.

Another objection is that patentees draft multiple claims to overcome future legal challenges. To be sure, patentees often draft claims of varying breadth, with some broader claims being closer to the known line on validity.⁵¹ Patents contain narrower claims, which may be much more likely to survive a litigation validity challenge, but also cover far fewer products. The objection is that the practice of utilizing multiple claims obviates much of the risk of retroactive legal changes. To be fair, the practice of permitting multiple patent claims does mean that retroactivity need not be an all-or-nothing situation. Sometimes only a subset of claims are affected (either in terms of validity or potential scope for infringement), which means that the incentives to innovate are dampened but not eliminated. I argue, though, that many of these Federal Circuit decisions are unpredictable

unpredictability of these changes lies in the pace of change. By common law standards, this court's jurisprudence moves at a lightning pace. This pace can engender uncertainty about the consequences of each new rule.").

49. 35 U.S.C. § 154(a)(2) (2006).

50. James Bruce Davis, *More Than They Bargained For: Are Title Insurance Companies Liable in Tort for Undisclosed Title Defects?*, 45 CATH. U. L. REV. 71, 71 (1995) ("Title insurance has become the prevailing method by which real estate purchasers and mortgage lenders protect themselves against the risk of defects in their titles.").

51. See Edward V. Filardi & Mark D. Baker, *The Past, Present & Future of the Federal Circuit: Practitioner Perspectives on the Law of Inequitable Conduct, Claim Construction, and the Doctrine of Equivalents*, 54 CASE W. RES. L. REV. 823, 840 (2004) ("Moreover, the need to file narrowing amendments might be avoided if the application includes many independent claims of varying breadth—that is, claims over the entire spectrum.").

enough that multiple claims are ineffective. If the law changes in an unexpected direction, lawyers will not have drafted claims in the new, preferred format.

Yet another potential objection is that there are the administrative procedures of reissue and reexamination to aid patentees in the event of changes in the law.⁵² In most circumstances, the administrative procedures of reissue⁵³ and reexamination⁵⁴ will be nearly useless to patentees. First, reexaminations cannot broaden patent claims.⁵⁵ Consequently, any judicial decision which narrows patent claims and their construction cannot be fixed through reexamination. Reissues may be of use in this regard, but they can only broaden patent claims if filed within two years of the issuance of the patent.⁵⁶ For decisions with retroactive effects beyond those two years, broadening reissues are unavailable. Even within those two years in which broadening reissue is possible, the range of possible changes is confined. This is because of the “new matter” doctrine which prohibits patentees from adding any new matter to the patent application after the filing date.⁵⁷ Broadening is also cabined by the enablement and written description requirements.⁵⁸ The specification must enable and provide a proper written description for any broadened claims as of the filing date of the application (not the filing date of the reissue), which cannot be expanded with any new matter.⁵⁹ Finally, reexamination and reissue cannot be used to remedy defects with the specification, even if the specification was compliant with the existing law at the time of drafting. The new matter doctrine will prohibit any change that includes new matter.⁶⁰ For these reasons, almost all of the exemplary retroactive cases provided in this Article cannot be overcome via reexamination or reissue.

Finally, even if a similar problem exists in other areas of law, that alone does not diminish its significance to patent law. Instead it means that patent law is on similar footing as other areas of law. But, again, I submit that the problem is more pronounced in patent law. Moreover, few areas of law have the anomaly that patent law has: weak prospective effects with large retroactive ones. Most other areas of law have stronger prospective effects.

52. See 35 U.S.C. §§ 251, 302–07 (2006 & Supp. 2011).

53. Reissue permits the Patent Office to review an issued patent, in this case if the inventor or assignee can show some error.

54. Reexamination permits the Patent Office to reconsider an issued patent if there is a substantial new question of patentability. The patent claims can be confirmed as is, or they can be narrowed.

55. 35 U.S.C. § 305 (2006) (“No proposed amended or new claim enlarging the scope of a claim of the patent will be permitted in a reexamination proceeding . . .”).

56. *Id.* § 251(d) (2006 & Supp. 2011) (“No reissued patent shall be granted enlarging the scope of the claims of the original patent unless applied for within two years from the grant of the original patent.”).

57. *Id.* § 132(b) (“No amendment shall introduce new matter into the disclosure of the invention.”).

58. See *id.* § 112(a).

59. See *id.* § 132.

60. It is also unclear whether semantic changes of wording of the specification, even if accepted by the Patent Office, are to be given significant weight by the courts.

C. Examples of Federal Circuit Decisions

There are legions of opinions with substantial retroactive effects and little prospective effects. These decisions can be broadly categorized as those affecting the preparation of the patent specification, those affecting claim drafting, and those affecting prosecution of the patent application before the Patent Office. These categories are described in more detail below, along with exemplary cases. These cases are some of the clearest instances of retroactivity in regular Federal Circuit decision making. The list below is not exhaustive; other cases exist which further illustrate the point.

1. Retroactive Changes to Claims and Infringement

All utility patents end with at least one claim.⁶¹ The claim recites, in precise technical terms, the scope of the patentee's exclusive rights.⁶² The scope of the claim is a central issue when evaluating the critical issues of patentability before the Patent Office or validity or infringement in patent litigation. Because of the well-known importance of patent claims, patent prosecutors spend substantial time considering the exact language of the claims.⁶³ The Patent Office also focuses a large portion of the examination of applications on the claims.⁶⁴

Several aspects of the law relating to patent claims have been changed over time.⁶⁵ The first example involves means-plus-function claim language. Means-plus-function claim language is expressly authorized in the Patent Act at § 112(f).⁶⁶ This type of claim language permits an applicant to avoid reciting a

61. 37 C.F.R. § 1.75(a) (2013).

62. Jonathan L. Moore, *A Patent Panacea?: The Promise of Corbinized Claim Construction*, 9 CHI.-KENT J. INTELL. PROP. 1, 7 (2010) (“[C]laims define a patent’s scope and thus the subject matter over which the patentee can claim a monopoly.”).

63. Legendary Federal Circuit Judge Giles Rich stated, “[T]he name of the game is the claim.” Giles S. Rich, *Extent of Protection and Interpretation of Claims—American Perspectives*, 21 INT’L REV. INDUS. PROP. & COPYRIGHT L. 497, 499 (1990) (emphasis omitted). For additional discussion on claim drafting, see generally ROBERT C. FABER, *FABER ON MECHANICS OF PATENT CLAIM DRAFTING* (6th ed. 2010).

64. See Michael Risch, *The Failure of Public Notice in Patent Prosecution*, 21 HARV. J.L. & TECH. 179, 182–84 (2007).

65. In addition to the Federal Circuit, the Court of Customs and Patent Appeals (CCPA) also made various changes to patent law, some of which had retroactive effects. For example, in 1970, the CCPA eliminated the Patent Office’s ability to reject claims due to “undue breadth” without having to provide a more detailed rationale. *In re Application of Mayhew*, 527 F.2d 1229, 1235 (C.C.P.A. 1976) (Baldwin, J., concurring); see also Jeffrey A. Lefstin, *The Constitution of Patent Law: The Court of Customs and Patent Appeals and the Shape of the Federal Circuit’s Jurisprudence*, 43 LOY. L.A. L. REV. 843, 860 (2010) (discussing how the CCPA “banished” the doctrine of undue claim breadth).

66. 35 U.S.C. § 112(f) (2006 & Supp. 2011) (“An element in a claim for a combination may be expressed as a means or step for performing a specified function without the recital of structure, material, or acts in support thereof, and such claim shall be construed to cover the corresponding structure, material, or acts described in the specification and equivalents thereof.”).

specific structural limitation in the claim. Instead, the applicant can recite a function. These claim elements cover structures to perform the claimed function. To accomplish this, the applicant typically uses the term “means” in the claim. In the early days of the Federal Circuit, means-plus-function claims (both literally and under the doctrine of equivalents) were interpreted broadly.⁶⁷ They were afforded scope over a wide range of structures which performed the recited function.⁶⁸ It was not limited to structures recited in the claim or the specification.⁶⁹ Accordingly, means-plus-function claim language was favored by many patent lawyers and clients as a way to obtain broad patent protection.⁷⁰

The scope of means-plus-function claims was radically adjusted in 1993 in *Valmont Industries, Inc. v. Reinke Manufacturing Co.*⁷¹ In *Valmont Industries*, the Federal Circuit stated that if an applicant elected to use means-plus-function language, a certain “string attached.”⁷² The Federal Circuit held that the process to construe means-plus-function claim language required locating the precise function from the specification.⁷³ From there, the specification again must be consulted to learn the precise structures, materials, or acts described to perform the function.⁷⁴ Finally, equivalents to these structures, materials, or acts are allowed only if they are structural equivalents and perform the same function.⁷⁵ With such a narrow definition of equivalents, the scope of means-plus-function claim limitations became substantially narrowed.

This holding reversed the previously held interpretation of means-plus-function claims.⁷⁶ After *Valmont Industries*, means-plus-function claims were limited to the embodiments specifically disclosed in the specification, and the narrowly construed “equivalents thereof.” Thus, means-plus-function claim limitations were frequently

67. John F. Triggs, *Functional Claiming: § 112 ¶ 6 Still Difficult After All These Years*, LANDSLIDE, Jan.–Feb. 2011, at 31, 31 (“Section 112 ¶ 6 was enacted to allow patent prosecutors an additional, broader way to claim an invention.”); see also *Halliburton Oil Well Cementing Co. v. Walker*, 329 U.S. 1, 10–11 (1946) (explaining the doctrine of equivalents).

68. See Evan Finkel, *Means-Plus-Function Claims in Light of Donaldson and Other Recent Case Developments*, 10 SANTA CLARA COMPUTER & HIGH TECH. L.J. 267, 268–69 (1994).

69. Brownlee, *supra* note 3, at 454.

70. George F. Wheeler, *Creative Claim Drafting: Claim Drafting Strategies, Specification Preparation, and Prosecution Tactics*, 3 J. MARSHALL REV. INTELL. PROP. L. 34, 40 (2003) (“At the beginning of my career, I was taught to use means-plus-function language as a way to expand the literal words used in the claim”); Triggs, *supra* note 67, at 31 (“For years it had been common practice to include at least one functional claim in an apparatus application, in part because it was thought to be a much broader way to claim an invention.”).

71. 983 F.2d 1039 (Fed. Cir. 1993).

72. *Id.* at 1042.

73. *Id.*

74. *Id.*

75. See *id.* at 1044.

76. See Wheeler, *supra* note 70, at 40–42; Triggs, *supra* note 67, at 31 (“But over the last 15 years, the way courts have identified and treated such § 112 ¶ 6 functional claims has evolved as a way to limit the patent rights.”).

interpreted vary narrowly: limited to nearly the exact structure disclosed by the patentee.⁷⁷ In contrast, regular claim language is interpreted as it is understood by those of skill in the art.⁷⁸ In most cases, non-means-plus-function claim language is broader. Consequently, patent lawyers after *Valmont Industries*, and indeed even today, are very reticent to exclusively rely on means-plus-function claim language.⁷⁹

Valmont Industries represented an enormous shift in the law. Until 1993, educated patent lawyers may have preferred means-plus-function claim language because it was viewed as broader than regular claim language.⁸⁰ After 1993, means-plus-function claim language was nearly always narrower than standard claim language.⁸¹ Means-plus-function claim language became disfavored, and the number of issued patents using means-plus-function language dropped from nearly fifty percent in the early 1990s to under ten percent in 2010.⁸² When it was used, it was included in extra patent claims—a belt-and-suspenders approach.⁸³ Because patent lawyers can draft claim language using either approach, the change in the law was very significant. Numerous patents have been held not infringed because of this change in the law.⁸⁴

Shortly thereafter, the Federal Circuit affirmed the holding of *Valmont Industries* relating to means-plus-function claim language in *In re Donaldson*.⁸⁵

77. Scott G. Ulbrich, *Festo, Notice and the Application of Prosecution History Estoppel to Means-Plus-Function Claim Limitations*, 27 WM. MITCHELL L. REV. 1165, 1167 (2002) (“Means-plus-function claim limitations may evade the notice principles because the scope of means-plus-function claim limitations encompasses a range of equivalents as a matter of law. Presumably, means-plus-function claim limitations include equivalents even when equivalents would not be otherwise available because of estoppel.”).

78. *Phillips v. AWH Corp.*, 415 F.3d 1303, 1313 (Fed. Cir. 2005) (en banc).

79. *Wheeler*, *supra* note 70, at 40–42. However, there may be other reasons to utilize means-plus-function claim language. For example, it may be more difficult to understand, which may be of some benefit in litigation. See Kimberly A. Moore, *Markman Eight Years Later: Is Claim Construction More Predictable*, 9 LEWIS & CLARK L. REV. 231, 239, 242 (2005) (reporting that the Federal Circuit reversed 39.3% of appeals of means-plus-function claim limitations and 34.5% of appeals of all claim terms from 1996 to 2003).

80. See JOSEPH E. ROOT, *RULES OF PATENT DRAFTING: GUIDELINES FROM FEDERAL CIRCUIT CASE LAW* 339 (2011) (noting the different expectations of patent drafters before *Valmont Industries*); *Wheeler*, *supra* note 70, at 40–41.

81. STEPHAN A. BECKER, *PATENT APPLICATIONS HANDBOOK* § 2:10 (2007).

82. See Dennis Crouch, *The Frequency of Means-Plus-Function Claims*, *PATENTLY-O* (July 25, 2011), <http://www.patentlyo.com/patent/2011/07/the-frequency-of-means-plus-function-claims.html>.

83. *Id.*; *Wright & Porter*, *supra* note 22, at 102 (noting that one should avoid relying exclusively on means-plus-function claim language).

84. As but one example, the famous litigant Ronald Katz recently lost a major multi-district litigation based in part on narrow claim constructions of means-plus-function claims. *In re Katz Interactive Call Processing Patent Litigation*, 639 F.3d 1303, 1315–16 (Fed. Cir. 2011).

85. 16 F.3d 1189 (Fed. Cir. 1994) (en banc). *Donaldson* was decided by an en banc Federal Circuit, which makes it different from the other “routine” Federal Circuit decisions discussed in Part II.C. However, *Donaldson* was decided in 1994, before the current attention provided to en banc patent cases at the Federal Circuit. Indeed, I was not able to

The narrower claim construction provided in *Donaldson* was surprising because the case involved an administrative appeal of a denial of a patent from the Patent Office. The Patent Office typically construes claims broader than the courts under its broadest reasonable interpretation standard, which is in contrast to the narrow construction given to means-plus-function elements.⁸⁶

Another significant change occurred⁸⁷ with respect to the law of joint infringement. In *BMC Resources v. Paymentech*,⁸⁸ the patents-in-suit related to methods of processing debt transactions without a personal identification number. All of BMC's claims at issue were fashioned as method claims. In all of the claims, no single actor performed all of the steps. Instead, several different actors, including a payee's agent, a remote payment network, and the card-issued financial institution, each performed some of the steps, and together performed all of the steps.⁸⁹

After acknowledging that the district court found no case law on point, the Federal Circuit set forth the law.⁹⁰ It held that for method claims, infringement required that a single entity perform all of the steps.⁹¹ Based upon the decision in *BMC Resources*,⁹² no entity performed all of the steps of any of the asserted claims, and consequently, the district court's finding of non-infringement was affirmed.⁹³ The Federal Circuit recently revised the law of joint infringement en banc, overruling *BMC Resources*.⁹⁴

locate even a single amicus brief filed in *Donaldson*.

86. Dawn-Marie Bey & Christopher Cotropia, *The Unreasonableness of the Patent Office's "Broadest Reasonable Interpretation" Standard*, 37 AIPLA Q.J. 285, 287–88 (2009) (discussing the difference in claim construction between the Patent Office and the courts); *see also*, MPEP § 2111 (8th ed. Rev. 7, Sept. 2008).

87. Yet another, more limited example occurred in *Sun Pharmaceutical Industries v. Eli Lilly & Co.*, 611 F.3d 1381 (Fed. Cir. 2010). The Federal Circuit found the patent-in-suit, which was directed to a method of use, invalid under an obscure doctrine known as obvious-type double patenting. *Id.* at 1389. While the underlying facts are slightly confusing in the case, the Federal Circuit held invalid a patent claiming a use of a drug because the same use of the drug was disclosed in an unrelated drug patent held by the same patentee. *Id.* This ruling can be easily overcome so that there are no prospective effects. To overcome the decision, a patentee should include a claim directed to the method of use in the drug patent. If the Patent Office issues a restriction requirement, then there can be no double patenting. If there is no restriction requirement, then a terminal disclaimer will be effective to eliminate a double patenting problem.

88. 498 F.3d 1373 (Fed. Cir. 2007).

89. *Id.* at 1375.

90. *Id.* at 1378–79.

91. *Id.* at 1380. This rule is not self-evident. In fact, the Federal Circuit has held that the same one-actor rule does not apply to system claims. Components owned by separate entities, even those components located outside the United States, may be sufficient for infringement of system claims. *See Centillion Data Sys. v. Qwest Commc'ns*, 631 F.3d 1279 (Fed. Cir. 2011); *NTP, Inc. v. Research in Motion, Ltd.*, 418 F.3d 1282 (Fed. Cir. 2005).

92. In *BMC Resources*, the Federal Circuit stated that parties could not merely contract out of performing certain steps in a claim. *BMC Resources*, 498 F.3d at 1381. However, subsequent case law has narrowed this exception. *See Muniauction, Inc. v. Thomson Corp.*, 532 F.3d 1318 (Fed. Cir. 2008).

93. *BMC Resources*, 498 F.3d at 1382.

94. *Akamai Techs., Inc. v. Limelight Networks, Inc.*, 692 F.3d 1301 (Fed. Cir. 2012) (en banc) (per curiam), *cert. granted*, 2014 U.S. LEXIS 11 (Jan. 10, 2014).

What is interesting about *BMC Resources* is that the Federal Circuit expressly recognized that the effects of its ruling could be avoided by different claim drafting.⁹⁵ It noted that BMC could have drafted its method claims using language that a single entity would perform.⁹⁶ For example, take the claimed step of “the accessed remote payment network determining . . . whether sufficient available credit or funds exist . . . to complete the payment transaction.”⁹⁷ As drafted, the “assessed payment network,” which may be an ATM, must perform this step. The language could be redrafted to read “receiving sufficient fund information from the assessed remote payment network, the sufficient fund information indicating whether sufficient available credit or funds exist . . . to complete the payment transaction.” It should be noted that the difference in the claim language is completely semantic; there is no substantive difference. After *BMC*, lawyers knew to draft claims using language that a single entity would infringe.

In 2012, the Federal Circuit revised the law of joint infringement again, this time en banc. In *Akamai Technologies, Inc. v. Limelight Networks, Inc.*, the court reaffirmed that proof of direct infringement required that a single entity perform all of the claimed steps.⁹⁸ However, a bare majority of the Federal Circuit found that indirect infringement did not require a single entity to perform all of the steps of a claimed invention.⁹⁹ The en banc decision on divided infringement has added uncertainty to claim drafting in the area.¹⁰⁰ Furthermore, the Supreme Court granted certiorari in 2014, compounding the uncertainty.

A final example of a case with retroactive effects on claim drafting is *In re Beauregard*.¹⁰¹ *Beauregard* involved an appeal from the Board of Patent Appeals and Interferences’s rejection of a particular style of software claim.¹⁰² The claim at issue in *Beauregard* was directed to a computer readable medium (such as a CD or floppy disk) containing a set of instructions that causes a computer to perform a process.¹⁰³ The Federal Circuit vacated the Board of Patent Appeals decision and authorized claims in this general format.¹⁰⁴ This was important because before *Beauregard*, claims with instructions were generally considered not patentable because they were viewed as violating the “printed matter” doctrine.¹⁰⁵ Thereafter,

95. *BMC Resources*, 498 F.3d at 1381 (citing Mark A. Lemley, David O’Brien, Ryan M. Kent, Ashok Ramani & Robert Van Nest, *Divided Infringement Claims*, 33 AIPLA Q.J. 255, 272–75 (2005)).

96. *Id.*

97. *Id.* at 1377.

98. 692 F.3d 1301, 1305 (Fed. Cir. 2012) (en banc) (per curiam), *cert. granted*, 2014 U.S. LEXIS 11 (Jan. 10, 2014).

99. *Id.* at 1307–11.

100. It should be noted that a large number of the affected claims were business methods. It is tempting to speculate that the *BMC Resources* opinion was part of the Federal Circuit’s goal of reducing the effects and reach of business methods.

101. 53 F.3d 1583 (Fed. Cir. 1995).

102. *Id.*

103. *Id.* at 1584.

104. *Id.*

105. See Stephen A. Becker, Note, *Drafting Patent Applications on Computer-Implemented Inventions*, 4 HARV. J.L. & TECH. 237, 247 (1991); Anthony L. Miele & Bruce H. Bernstein, *Drafting Claims for Patent Prosecution of*

claims of this format became widely adopted and are commonly referred to as *Beauregard* claims.¹⁰⁶

Beauregard is significant because it shows that sometimes a Federal Circuit decision positively affects issued patents. Putting aside the prospective effects of the *Beauregard* decision,¹⁰⁷ the decision also had retroactive effects. For the small number of patentees who used *Beauregard* claims, their patents were worth more to the market.¹⁰⁸ Issued patents that used other formats remained of questionable validity. Not only was there more certainty prospectively, some issued patents increased in value while others merely remained constant.¹⁰⁹

In 2011, in *CyberSource v. Retail Decisions*, the Federal Circuit appears to have implicitly changed course on *Beauregard* claims, ruling that a claim written in that format was not patentable subject matter.¹¹⁰ While patentees have relied upon the *Beauregard* opinion for guidance for over fifteen years, the rules may have changed. As for prospectivity, there is no clear avenue for patentees to use to avoid *CyberSource*. As for retroactivity, the repercussions of this recent case may be severe for issued patents. One commentator has noted that over 40,000 issued patents contain at least one *Beauregard* claim.¹¹¹ The Federal Circuit's en banc

Software/Computer-Related Inventions in the U.S. in Order to Maximize the Scope of Protection, 1 U. BALT. INTELL. PROP. L.J. 41, 57 (1992); Robert Greene Sterne, Edward J. Kessler, Robert R. Axenfield, Michael Q. Lee & Robert E. Sokohl, *Preparing and Prosecuting Electronic and Computer Related Patent Applications: Avoiding and Overcoming Statutory Subject Matter Rejections*, 33 IDEA 297, 310–19 (1993); see also *In re Lowry*, 32 F.3d 1584 (Fed. Cir. 1994).

106. See, e.g., Andrei Iancu & Jeremiah Helm, *Code on Disks and Hat Tricks—Is Computer Software on a Medium Really Patentable?*, 90 J. PAT. & TRADEMARK OFF. SOC'Y 97 (2008); Shawn McDonald, *Patenting Floppy Disks, or How the Federal Circuit's Acquiescence Has Filled the Void Left by Legislative Inaction*, 3 VA. J.L. & TECH. 9 (1998); Elizabeth A. Richardson, *Toward a Direct Functional Relationship Requirement for Claims to Software Encoded on a Computer-Readable Storage Medium: Rethinking In re Beauregard in Response to the USPTO's Interim Guidelines Regarding the Patentability of Data Signal Claims*, 3 OKLA. J.L. & TECH. 30 (2006).

107. Subsequent to the decision, patent lawyers began including *Beauregard* claims in software patent applications. The Patent Office readily accepted this claim format. See Examination Guidelines for Computer-Related Inventions, 61 Fed. Reg. 7478 (Feb. 28, 1996); MPEP § 2106 (8th ed. Rev. 7, Sept. 2008). Thus, unlike the other decisions discussed in Part II.C, the *Beauregard* decision had substantive prospective effects.

108. It is impossible to assess the subjective value to the patentee, although it appears unlikely that patentees can repeatedly and accurately predict future Federal Circuit case law.

109. Similarly, even patentable subject matter cases are capable of prospective avoidance. See Kristel Schorr & Jackie Wright Bonilla, *Top Twelve Practice Tips Following Myriad and Prometheus*, PERSONALIZED MED. BULLETIN, <http://www.personalizedmedicinebulletin.com/diagnostic-methods/top-twelve-practice-tips-following-myriad-and-prometheus/> (describing ways to draft claims to avoid the holding of *Ass'n Molecular Pathology v. USPTO*, 689 F.3d 1303 (Fed. Cir. 2012), *affirmed in part, rev'd in part*, 133 S. Ct. 2107 (2013)).

110. *CyberSource Corp. v. Retail Decisions, Inc.*, 654 F.3d 1366, 1373, 1376–77 (Fed. Cir. 2011).

111. James G. McEwen & Ramya Possett, *The Broadening Chasm Between Claim Interpretation During Litigation and Examination for Product-By-Process Claims*, LANDSLIDE, Mar.–Apr. 2011, at 19 (“Currently, at least 41,334 issued patents contain at least

ruling in *CLS Bank International v. Alice Corp.* did little to clarify the legal landscape relating to software.¹¹² Disappointingly, while some of the claims at issue were ultimately found invalid, the *CLS Bank* case did not generate a majority opinion that explained when, if ever, software can be patentable. The U.S. Supreme Court granted certiorari in the *CLS Bank* case, and the Court is expected to issue a decision by June 2014. The uncertainty, especially for issued patents, is quite high.

But it is worth noting that opinions which retroactively strengthen patents by definition harm potential infringers. When a product is manufactured and sold, it may not infringe a valid claim of a patent. However, subsequent case law may change the possibility of liability. Potential infringers can modify their behavior prospectively, but cannot undo items already made, used, sold, or imported. This is the mirror image of the effects on patentees when patent value increases.

2. Retroactive Changes to the Patent Specification

As a brief explanation for those less familiar with patent law, the specification of a patent contains various standard sections, such as Background of the Invention, Summary of the Invention, Brief Description of the Figures, and Detailed Description of the Invention.¹¹³ Patent prosecutors draft text for each section, largely from scratch for each invention. While the precise language is tailored to the invention at issue, there are certain norms and practices within the patent prosecutor community.¹¹⁴ Prosecutors often use similar sentence structure or organizational schemes.¹¹⁵ General purpose phrases like “in accordance with one embodiment of the invention” or “an object of the invention is” are used and reused by patent lawyers.¹¹⁶ These words are understood by patent lawyers to have certain meanings and are often included in widely read handbooks on patent prosecution.¹¹⁷ Occasionally, the Federal Circuit shifts the legal effect of these words.

The effects of reciting various “Objects of the Invention” were redefined in *Gentry Gallery, Inc. v. Berkline Corp.*¹¹⁸ In *Gentry Gallery*, the patent-in-suit was directed to sofas, and more particularly to sectional sofas with two independent reclining seats.¹¹⁹ The claims required two reclining seats, a console between the two reclining seats, and a pair of control means.¹²⁰ The originally filed claims had a

one *Beauregard* claim.”).

112. 717 F.3d 1269 (2013) (en banc) (per curiam), *cert. granted*, 134 S. Ct. 734 (2013).

113. MPEP § 608 (8th ed. Rev. 7, Sept. 2008).

114. There are numerous annual conferences devoted solely to patent prosecution; for example, the PLI Patent Prosecution Workshops result in a yearly publication. *See, e.g., Advanced Patent Prosecution Workshop 2014: Claim Drafting & Amendment Writing*, PRACTISING LAW INST. (July 2014), http://www.pli.edu/Content/CourseHandbook/Advanced_Patent_Prosecution_Workshop_2014/_/N-4mZ1z12ex?ID=179644.

115. Hattenbach et al., *supra* note 7, at 362.

116. *See* Lin Shao, *How to Draft a Patent*, TEX. A&M UNIV., <http://beamlab.tamu.edu/Writing%20Tips/Dr.%20Shao/How%20to%20draft%20a%20patent.html>.

117. *See, e.g.*, FRED K. CARR, PATENTS HANDBOOK: A GUIDE FOR INVENTORS AND RESEARCHERS TO SEARCHING PATENT DOCUMENTS AND PREPARING AND MAKING AN APPLICATION 42 (2009).

118. 134 F.3d 1473 (Fed. Cir. 1998).

119. *Id.* at 1474–75.

120. *Id.*

further limitation that the control means be located on the console.¹²¹ During prosecution, that limitation was removed.¹²² In its place, the claims were amended to recite that the control means be “mounted on the double reclining seat sofa section.”¹²³

In 1998, the Federal Circuit found that the patent-in-suit was invalid for failure to comply with the written description requirement.¹²⁴ The written description argument focused on the location of controls on the sofas.¹²⁵ The Federal Circuit ruled that the specification required that the control means be located on the console.¹²⁶ Consequently, the Federal Circuit found that the issued claims, which omitted this limitation, were too broad and failed 35 U.S.C. § 112.¹²⁷ To reach this decision, the Federal Circuit heavily relied upon certain words used in the specification of the patent-in-suit.¹²⁸

The Federal Circuit noted that in the background section of the specification of the patent-in-suit that the patentee used the phrase “object of the invention” several times.¹²⁹ For example, the patent cites that the patentee disclosed that an object of the invention is to provide a sectional sofa “with a console . . . that accommodates the controls for both the reclining seats.”¹³⁰ The patent also states that “[a]nother object of the present invention is to provide . . . a console positioned between [the reclining seats] that accommodates the controls.”¹³¹ Relying upon these statements as limiting the invention, the Federal Circuit found that the deviation from the “objects” was beyond what the patentee was entitled.¹³²

Prior to the *Gentry Gallery* decision, it was standard practice for patent prosecutors to recite “Objects of the Invention.”¹³³ Each conceivable purpose of the invention was recited as a separate object. It was not understood that if a single

121. *Id.* at 1475.

122. *Id.* at 1477.

123. *Id.* at 1475.

124. *Id.* at 1479.

125. *Id.*

126. *Id.* at 1479–80.

127. *Id.* at 1479.

128. *See id.* at 1478–79.

129. *Id.* at 1479.

130. *Id.* at 1478.

131. *Id.* at 1479.

132. *Id.* at 1479–80. Several cases subsequent to *Gentry Gallery* reinforced the view that use of the word “invention” in a specification can be problematic. *See Alloc, Inc. v. Int’l Trade Comm’n*, 342 F.3d 1361, 1378–79 (Fed. Cir. 2003) (relying upon the word “invention” in the specification to limit the scope of the claims); *Watts v. XL Sys., Inc.*, 232 F.3d 877, 882 (Fed. Cir. 2000) (importing limitations from the specification into the claims because the patentee used the term “invention”); *Toro Co. v. White Consol. Indus., Inc.*, 199 F.3d 1295, 1301–02 (Fed. Cir. 1999) (limiting patent claim because applicant used language focusing on the advantage of the invention); *Boundy*, *supra* note 20, at 433 (citing cases to argue against use of the word “invention” in a patent specification).

133. *Wright & Porter*, *supra* note 22, at 56 (“It has been the practice of many patent attorneys to refer to various ‘objects of the invention’ or ‘advantages of the invention’ when summarizing and describing the invention’s principles in a patent application. Many thousands if not millions of U.S. patents have issued with language similar to this . . .”).

object were missing from a claim, then the claimed invention was invalid. In fact, it was just the opposite—it was thought that the claims exclusively defined the scope of the invention, and that the objects provided background but not limiting information.¹³⁴

After the *Gentry Gallery* decision, prosecutors changed their practice.¹³⁵ The Patent Office had never required an applicant to recite “Objects of the Invention.” Since they were not required, and they had the potential—as evidenced by *Gentry Gallery*—to cause problems, many prosecutors were advised to omit them.¹³⁶ Consequently, relatively quickly after the decision, the standard practice of prosecutors moved from including “Objects of the Invention” to being silent on the objects of the invention.¹³⁷ The effect of *Gentry Gallery* was to reduce disclosure in specifications for applications filed after the case was decided.¹³⁸ And by removing any reference to “Objects of the Invention,” *Gentry Gallery* had little effect on new patent applications. Also, in *Gentry Gallery*, the Federal Circuit relied upon the fact that the patent recited that a particular aspect of the disclosure was “essential.”¹³⁹ Again, the prospective solution for patent prosecutors was less disclosure to overcome the case law. It is now considered bad practice to use words like “important” or “essential” in a patent specification.¹⁴⁰

The effect was quite different on issued patents and applications that had already been filed as of the decision date. Many of those patents and applications included a recitation of the “Objects of the Invention.”¹⁴¹ They were bound by the decision, and now are susceptible to a written description validity challenge. Patents drafted and issued in the 1980s, or earlier, were weakened (because new defenses were available) by the 1998 Federal Circuit decision. Even if the application was still merely pending before the Patent Office, the specification was set as of the filing date, and could not be amended to include any new matter.¹⁴² To be fair, few patents have been invalidated subsequent to *Gentry Gallery* on this basis in

134. *Id.*

135. Wheeler, *supra* note 70, at 44 (suggesting “leaving out a recitation of ‘objects of the invention’” because of *Gentry Gallery* and other cases).

136. *Id.*

137. Cynthia M. Lambert, *Gentry Gallery and the Written Description Requirement*, 71 B.U. J. SCI. & TECH. L. 109, 138–39 (2001); Cindy I. Liu, *Gentry Gallery, Inc. v. Berkline Corp.*, 14 BERKELEY TECH. L.J. 123, 134 (1999).

138. See Timothy R. Holbrook, *Patents, Presumptions, and Public Notice*, 86 IND. L.J. 779, 804–05 (2011) (arguing that some Federal Circuit opinions have increased the incentive for applicants to disclose less information).

139. *Gentry Gallery, Inc. v. Berkline Corp.*, 134 F.3d 1473, 1479 (Fed. Cir. 1998).

140. Richard V. Burgujian, Esther H. Lim, Wenye Tan & Ningling Wang, *Practical Considerations and Strategies in Drafting U.S. Patent Applications*, FINNEGAN.COM, Apr. 2009, at 2–3, <http://www.finnegan.com/resources/articles/> (search “Last Name” for “Burgujian” then follow article hyperlink); Boundy, *supra* note 20, at 433 (identifying various “words to avoid” in patent applications including the following: best, crucial, essential, highly, key, most, radically, unique); ROOT, *supra* note 80, at 153 (discouraging patent applicants from characterizing aspects of the invention as “essential” in light of *Gentry Gallery*).

141. See Liu, *supra* note 137, at 134.

142. 35 U.S.C. § 132(a) (2006).

litigation.¹⁴³ However, most cases settle, and a new defense is available that was not available beforehand.

There are other cases beyond *Gentry Gallery* that had similar effects on specification drafting. For example, in *Biomedino, LLC v. Waters Technologies Corp.*, the Federal Circuit changed the level of detail required to satisfy the definiteness requirement of patent law.¹⁴⁴ In general, to comply with the definiteness requirement, all that is required is that a person of skill in the art could ascertain the meaning in light of the specification.¹⁴⁵ The knowledge of a person of skill in the art could complete the details.¹⁴⁶ In *Biomedino*, the Federal Circuit held that a different rule applied to means-plus-function claims.¹⁴⁷ It affirmed a finding that certain claims that used means-plus-function claim format were invalid as indefinite.¹⁴⁸ The patentee had used the phrase “control means” in the claims, which the court found to be in means-plus-function format.¹⁴⁹ The patent-in-suit had included some disclosure of the control means in the specification.¹⁵⁰ It included a box in one of the drawings which was labeled as “control.”¹⁵¹ The patent also included a statement that the process may be “controlled automatically by known differential pressure, valving and control equipment.”¹⁵² The Federal Circuit stated that the knowledge of one of skill in the art could not be used to satisfy the definiteness requirement.¹⁵³ According to the Federal Circuit, some specific structure needed to be disclosed by the patentee.¹⁵⁴

Subsequent to *Biomedino*, applicants include more detailed descriptions in the specifications. These descriptions include basic structures if they relate to means-plus-function claim elements.¹⁵⁵ Consequently, there is little or no prospective effect of the decision. However, for specifications drafted before *Biomedino*, an indefiniteness challenge is now possible.

The Federal Circuit has also limited the use of the knowledge of a person of ordinary skill in the art in other contexts. For instance, the Federal Circuit recently ruled that the knowledge of a person of skill in the art cannot complete missing information in the specification needed for the enablement requirement.¹⁵⁶ In short,

143. This is perhaps due to another form of uncertainty caused by the Federal Circuit. The Federal Circuit formally follows stare decisis, but it often distinguishes cases to their facts. *Gentry Gallery* may have been a case so limited.

144. 490 F.3d 946 (Fed. Cir. 2007).

145. *Orthokinetics, Inc. v. Safety Travel Chairs, Inc.*, 806 F.2d 1565, 1576 (Fed. Cir. 1986).

146. *See Praxair, Inc. v. ATMI, Inc.*, 543 F.3d 1306, 1319 (Fed. Cir. 2008).

147. *Biomedino*, 490 F.3d at 952–53.

148. *Id.* at 953.

149. *Id.* at 950.

150. *Id.*

151. *Id.*

152. *Id.*

153. *Id.* at 952.

154. *Id.*

155. Later Federal Circuit opinions affirmed and relied upon *Biomedino*. *See Telecordia Techs., Inc. v. Cisco Sys., Inc.*, 612 F.3d 1365, 1380 (Fed. Cir. 2010).

156. *ALZA Corp. v. Andrx Pharma., L.L.C.*, 603 F.3d 935, 940–41 (Fed. Cir. 2010) (stating that an applicant “cannot simply rely on the knowledge of a person of ordinary skill

the Federal Circuit has changed the law on how much detail is required in a patent specification.¹⁵⁷ The effects of this change are nearly entirely retroactive, not prospective.¹⁵⁸

3. Retroactive Changes to Prosecution Before the Patent Office

The Patent Office substantively examines patent applications.¹⁵⁹ Examination is accomplished by the exchange of various papers between the applicant and the Patent Office. These papers include, for example, the original patent application, office actions reflecting arguments by the Patent Office that some of the patent claims are unpatentable for one reason or another, applicant responses to office actions, and prior art to the invention.¹⁶⁰

The applicants, their attorneys, and others substantively involved in the patent prosecution process owe the Patent Office a duty of candor and good faith.¹⁶¹ The duty of candor and good faith contains the requirement to provide to the Patent Office information material to the patentability of the invention.¹⁶² Material information includes prior art of which the applicants or their attorneys are aware.¹⁶³ The courts have recognized the defense of “inequitable conduct” if a patentee fails to abide by these duties.¹⁶⁴ If a court finds that a patentee engaged in inequitable conduct, the penalty is stiff: the patent as a whole may be declared unenforceable, and attorneys’ fees from the litigation may be assessed against the patentee.¹⁶⁵ The patentee may also be ordered to pay the attorneys’ fees of the accused infringer.¹⁶⁶ At least before *Therasense*, inequitable conduct was reportedly alleged in a majority of patent infringement cases.¹⁶⁷ Of the interactions

to serve as a substitute for the missing information in the specification”).

157. See Holbrook, *supra* note 138, at 779 (arguing that the Federal Circuit has recently “marginalized” the role of a person of skill in the art in its § 112 analysis).

158. This is quite different from a Securities and Exchange Commission change in how much disclosure is required in initial public offering (IPO) documents, for example. There would be only a relatively small number of pending IPOs with defective documentation, and all of it could be fixed. The change would not matter for past IPOs. In contrast, defective patents—which may include any patent still in force—are unfixable.

159. See MPEP ch. 2103 (8th ed. Rev. 9, Aug. 2012).

160. *Id.* ch. 601.

161. 37 C.F.R. § 1.56 (2013) (“Each individual associated with the filing and prosecution of a patent application has a duty of candor and good faith in dealing with the Office . . .”).

162. *Id.*

163. *Id.* (noting that the duty of candor and good faith “includes a duty to disclose to the Office all information known to that individual to be material to patentability as defined in this section”).

164. See, e.g., *Therasense, Inc. v. Becton, Dickinson & Co.*, 649 F.3d 1276 (Fed. Cir. 2011) (en banc); Christopher A. Cotropia, *Modernizing Patent Law’s Inequitable Conduct Doctrine*, 24 BERKELEY TECH. L.J. 723 (2009).

165. Cf. Lee Petherbridge, Jason Rantanen & Ali Mojibi, *The Federal Circuit and Inequitable Conduct: An Empirical Assessment*, 84 S. CAL. L. REV. 1293, 1295 (2011) (arguing that no doctrine in patent law is more important than inequitable conduct).

166. *Therasense*, 649 F.3d at 1289.

167. Christian E. Mammen, *Controlling the “Plague”: Reforming the Doctrine of Inequitable Conduct*, 24 BERKELEY TECH. L.J. 1329, 1360 (2009) (citing one study where

with the Patent Office during prosecution of an application, the duty to disclose information is paramount.

The requirements of the duty to disclose information to the Patent Office were heightened in *McKesson Information Solutions, Inc. v. Bridge Medical, Inc.*¹⁶⁸ In *McKesson*, the patent-in-suit was directed to a “patient identification system for relating items with patients and ensuring that an identified item corresponds to an identified patient.”¹⁶⁹ In 2007, the Federal Circuit affirmed a holding that the patent-in-suit was unenforceable due to inequitable conduct.¹⁷⁰

While prosecuting the patent-in-suit, the patent attorney also prosecuted another patent application for the patentee.¹⁷¹ These patent applications were not “related” as that term is used by patent lawyers: they were not a continuation, divisional, or continuation-in-part of the patent-in-suit.¹⁷² However, they were directed to roughly the same technology.¹⁷³ These applications were assigned to a different patent examiner.¹⁷⁴

Before *McKesson*, most patent prosecutors did not disclose office actions to the Patent Office.¹⁷⁵ The conventional wisdom was that office actions were merely arguments about why particular claims were not patentable.¹⁷⁶ The potentially material information was found in the prior art itself, not the office actions. The Patent Office also issued the office action so it seemed somewhat circular to disclose government correspondence to the government. Consequently, patent prosecutors felt that disclosing the prior art but not the office action fully complied with their duty of disclosure.

After *McKesson*, the disclosure norms changed. Because the Federal Circuit had ruled that failure to disclose an office action could be material, prosecutors began to disclose office actions.¹⁷⁷ No doubt there are some logistical issues for repeat patent filers in confirming that office actions in every case are continually provided

nearly sixty percent of district court cases include allegations of inequitable conduct). There is little firm data from after the *Therasense* decision, and some have criticized the Mammen study. See Jason Rantanen, *Recalibrating Our Empirical Understanding of Inequitable Conduct*, 3 IP THEORY 98 (2013).

168. 487 F.3d 897 (Fed. Cir. 2007).

169. *Id.* at 902.

170. *Id.* at 926.

171. *Id.* at 904.

172. Continuations, divisionals, and continuations-in-part applications are types of patent applications which rely, at least in part, upon the disclosure and filing date of a previously filed patent application. See 35 U.S.C. § 120 (2006 & Supp. V 2012).

173. *McKesson*, 487 F.3d at 904.

174. *Id.*

175. The *Dayco Prods., Inc. v. Total Containment, Inc.* decision of 2003 arguably was the first case to require disclosure to the Patent Office of information about related cases. 329 F.3d 1358, 1367–68 (Fed. Cir. 2003). *Dayco* and *McKesson* alone or together substantially changed the duties of patent prosecutors. ROOT, *supra* note 80, at 433 (arguing that these two decisions “have markedly increased the attorney’s responsibility for providing information to the PTO”).

176. Lisa A. Dolak, *The Inequitable Conduct Gyre Widens*, 50 IDEA 215, 222–23 (2010).

177. Lisa A. Dolak, *Beware the Inequitable Conduct Charge! (Why Practitioners Submit What They Submit)*, 91 J. PAT. & TRADEMARK OFF. SOC’Y 558, 564 (2009).

to every examiner. But the logistical issues can be overcome, and prospectively, there is little or no effect. By that, I mean that patent applications filed after the date of the decision are essentially unaffected by the holding of *McKesson*.¹⁷⁸ For applications still pending at the time *McKesson* was issued, applicants could still possibly disclose office actions from other similar applications.¹⁷⁹ This is because unlike the specification, which is essentially frozen as of the filing date, prosecution is open until the issuance date.¹⁸⁰ An applicant can always provide additional disclosures, although the Patent Office may, depending on the timing and circumstances, require an additional fee to be paid or require a continuation application to be filed.¹⁸¹

The world is different for patents which were issued prior to *McKesson*. The prosecution for those patents has already closed. Consequently, no new materials, including office actions, can be disclosed to the Patent Office. If any of those patents are asserted in litigation, a charge of inequitable conduct will immediately be raised by the accused infringer. Depending upon the case, the *McKesson* defense may be meritorious. Thus, these patents have suffered a loss in value.

More recently, the Federal Circuit made it more difficult for accused infringers to prevail on the defense of inequitable conduct. In *Therasense, Inc. v. Becton, Dickinson & Co.*, the Federal Circuit ruled that, in order to satisfy the materiality requirement of the inequitable conduct defense, the nondisclosed reference must be “but-for” material.¹⁸² That means that the accused infringer must show that the Patent Office would not have granted the patent if it had known of the nondisclosed reference.¹⁸³ *Therasense* will make it more difficult to successfully raise the defense.¹⁸⁴ This ruling may have retroactive effects on a subset of issued patents that would have been unenforceable under the pre-*Therasense* standard, but are not under the post-*Therasense* standard.

D. Retroactivity and Potential Competitors

Retroactivity affects more than just individual patentees. It also affects potential infringers. For example, another change with respect to prosecution behavior may have occurred near the time the Federal Circuit was created. After its creation, the Federal Circuit adopted the law of the Court of Customs and Patent Appeals.¹⁸⁵ In

178. Obviously, all patent applications now cost slightly more to prosecute because the lawyers need to locate and disclose office actions in related cases.

179. The patent community has complained that the new burdens established by *McKesson* are too difficult. See, e.g., Courtenay Brinckerhoff, *Three Easy Solutions to the McKesson Problem*, PHARMAPATENTS BLOG (June 24, 2010), <http://www.pharmapatentsblog.com/duty-of-disclosure/three-easy-solutions-to-the-mckesson-problem/>.

180. See 35 U.S.C. § 112(a) (2006).

181. 37 C.F.R. § 1.97 (2013).

182. 649 F.3d 1276, 1291 (Fed. Cir. 2011) (en banc).

183. *Id.*

184. Jason Rantanen & Lee Petherbridge, *Therasense v. Becton Dickinson: A First Impression*, 14 YALE J.L. & TECH. 226, 251 (2012) (“[T]he majority opinion clearly indicates the intent to make it more difficult to establish inequitable conduct.”).

185. John A. Morrisett, *i 4 an i: Why Changing the Standard for Overcoming the*

1984, just two years after its creation, the Federal Circuit afforded issued patents a heightened presumption of validity over all prior art, regardless of whether the art had been submitted to the Patent Office.¹⁸⁶

Arguably, this changed patent prosecution practice. Previously, in at least some judicial circuits, if the applicant did not submit a prior art reference to the Patent Office, there was a lower presumption of validity as to that art.¹⁸⁷ Holders of issued patents generally benefited from this change, as their patents were provided a stronger presumption of validity than they anticipated when the patent applications were filed and prosecuted. Another similar change was the Federal Circuit's elevation of the teaching-suggestion-motivation test for obviousness, adopting and strengthening precedent from the Court of Customs and Patent Appeals.¹⁸⁸ These changes, however, may have been anticipated. In fact, Congress debated the Act which created the Federal Circuit for many years.¹⁸⁹ It was likely foreseeable that a new national court with authority over patent appeals would be both slightly pro-patentee and inclined to adopt the law of the Court of Customs and Patent Appeals. These examples—the raising of the presumption of validity and the ratcheting up of the test for obviousness—both differ from the other cases in that they have substantial prospective effects. The point of these examples is to show that accused infringers (not patentees) occasionally may be harmed by retroactive effects of decisions.¹⁹⁰

Furthermore, in industries that mainly rely upon cross-license arrangements of huge patent pools, the effects of retroactivity may be muted.¹⁹¹ In these industries, the exact contours of individual patents are less important than the quantity of patents owned.¹⁹² Since the Federal Circuit decisions do not automatically reduce the number of patents in a portfolio, they do not substantially change the cross-licensing positions of the parties. In contrast, smaller companies and individual inventors typically do not have a diversified patent portfolio. They are at higher risk that Federal Circuit opinions materially impact their patent value.

Presumption of Patent Validity Will Cause More Harm Than Good, 18 RICH. J.L. & TECH., no. 2, 2012, at 1, 11, <http://jolt.richmond.edu/v18i2/article7.pdf>.

186. *Am. Hoist & Derrick Co. v. Sowa & Sons, Inc.*, 725 F.2d 1350, 1359–60 (Fed. Cir. 1984), *abrogated by Therasense*, 649 F.3d at 1290.

187. In fact, some circuits stated that no presumption of validity was owed to that art. *Tveter v. AB Turn-O-Matic*, 633 F.2d 831, 833 (9th Cir. 1980).

188. The Court of Customs and Patent Appeals had adopted a similar test in 1961. *See Application of Bergel*, 292 F.2d 955, 956–957 (C.C.P.A. 1961). The Federal Circuit's teaching-suggestion-motivation test became the focal point of the Supreme Court's *KSR Int'l Co. v. Teleflex, Inc.* opinion. 550 U.S. 398, 407 (2007).

189. Scott Amy, *Limiting the Jurisdiction of the Federal Circuit: How Holmes Alters the Landscape of Patent Cases on Appeal*, 38 GA. L. REV. 429, 436–37 (2003).

190. Arguably, raising the standards for proving obviousness did not have any retroactive effect on infringers, assuming that the U.S. Patent Office properly applied the older, broader standard. That is because the Patent Office should not have granted any patents unless they met the broader standard, and patentees should not have been able to resurrect applications rejected and abandoned under the broader standard.

191. *See Colleen V. Chien, From Arms Race to Marketplace: The Complex Patent Ecosystem and Its Implications for the Patent System*, 62 HAST. L.J. 297, 321–22 (2010).

192. *Id.* at 308 (noting that in large cross-licensing arrangements, “parties focused on the quantity rather than the quality of patents in a portfolio”).

Therefore, importantly, retroactivity may have disproportionately large effects on smaller inventors.

III. THE PROBLEM WITH THE FEDERAL CIRCUIT

A. *The Federal Circuit's Consideration of Retroactivity*

Retroactivity appears to be a noticeable trouble spot for the Federal Circuit. The Federal Circuit is the central and the nearly exclusive decider of the patent laws. Other bodies that create and modify the patent laws do not appear to have the same blind spot. First, changes can be made through legislation, in addition to judicial resolution of particular disputes. When Congress modifies the law, it hears views from various places. In theory, multiple lobbyists from various constituents solicit legislators and attempt to convince them to modify the laws in a particular direction. Interested and knowledgeable parties are invited to provide testimony before congressional committees. The media and citizens also play a role. This has occurred, to an extent, in the debates about patent reform. Patent reform has been proposed in Congress in each of the last five years and was finally passed in 2011 with the America Invents Act.¹⁹³ The debate is framed as being between various industries—typically the IT industry lobbying for weaker patents and the pharmaceutical industry opposing the weakening.¹⁹⁴ While this process is far from perfect, the views of various actors are present.¹⁹⁵ Moreover, Congress has a fair amount of flexibility regarding the precise time period to which changes in law apply.¹⁹⁶ For instance, many of the provisions in the America Invents Act have clear effective dates and are not retroactive.¹⁹⁷ Furthermore, Patent Office rule changes are de facto more likely to be prospective-only in application.¹⁹⁸

193. Leahy-Smith America Invents Act, Pub. L. No. 112-29, 125 Stat. 284 (2011).

194. Eric E. Williams, *Patent Reform: The Pharmaceutical Industry Prescription for Post-Grant Opposition and Remedies*, 90 J. PAT. & TRADEMARK OFF. SOC'Y 354, 362 (2008).

195. The major international intellectual property treaty requires the patent laws of signatory countries to have various provisions. However, it does not require these provisions to have retroactive effects. For example, Article 70.3 states, "There shall be no obligation to restore protection to subject matter which on the date of application of this Agreement for the Member in question has fallen into the public domain." Agreement on Trade-Related Aspects of Intellectual Property Rights art. 70.3, Apr. 15, 1994, Marrakesh Agreement Establishing the World Trade Organization, Annex 1C, 1869 U.N.T.S. 299, 329. Thus, the treaty negotiators considered and rejected a requirement of retroactivity.

196. Arti K. Rai, Essay, *Patent Validity Across the Executive Branch: Ex Ante Foundations for Policy Development*, 61 DUKE L.J. 1237, 1265 (2012) (noting that Congress is "typically free to act prospectively, retroactively, or both, depending on the nature of a given problem").

197. For instance, the definition of prior art with respect to sales has been expanded to include sales that occurred entirely abroad. See Leahy-Smith America Invents Act § 3(b), 125 Stat. at 285–86. This change became effective in March 2013. *Id.* § 3(n), 125 Stat. at 293.

198. Rai, *supra* note 196, at 1270.

Separately, the Supreme Court hears patent cases and appears to be very in tune with the effects of its rulings. As the Supreme Court typically hears only cases of significant importance, it knows that parties beyond those in the dispute will be affected. It also receives input from parties outside the litigation via the amicus curiae brief process, so it hears the views of the community.¹⁹⁹ For example, the Supreme Court recently rejected a request to weaken the presumption of validity afforded to issued patents in *Microsoft Corp. v. i4i Ltd. Partnership*.²⁰⁰ In that case, the Supreme Court received over forty amici briefs, representing a wide range of industries.²⁰¹ The Supreme Court is theoretically attuned to the potential retroactive repercussions of its decisions, and its concern for retroactivity might play a significant role in the Court's analysis and ultimate decision in the case.

The Supreme Court also seems to know that in patent law, in particular, there are important potential retroactive effects. In fact, the Justices frequently ask questions that convey their concerns about effects on other industries. For instance, in the *KSR* oral argument, Justice Souter appeared concerned about revising the Federal Circuit's test for evaluating whether an invention is obvious.²⁰² He asked counsel for the accused infringer:

Justice Souter: What do you make of the, sort of the revolution argument that whether it's contrary or intention with, in fact the, it's been applied in what is now the Fed Circuit for what, 20 years, more than 20 years I guess. And to tip it over now is going to produce chaos. What's the answer to that?²⁰³

In the *Bilski v. Kappos* oral argument, the Justices seemed concerned about the effects of an opinion on parties and industries outside the litigants. Justices Ginsburg and Kennedy noted that the parties were concerned the Supreme Court would make a bold change in the doctrine at issue—patentable subject matter—that would affect industries outside the dispute itself.²⁰⁴ First, the Office of the Solicitor

199. See Colleen V. Chien, *Patent Amicus Briefs: What the Courts' Friends Can Teach Us About the Patent System*, 1 U.C. IRVINE L. REV. 395 (2011); David Orozco & James G. Conley, *Friends of the Court: Using Amicus Briefs to Identify Corporate Advocacy Positions in Supreme Court Patent Litigation*, 2011 J.L. TECH. & POL'Y 107 (2011).

200. 131 S. Ct. 2238 (2011).

201. Amici briefs were filed on behalf of parties such as 3M, Apple, Acushnet, Toyota, IBM, Genentech, Facebook, Intel, General Motors, Cisco, Netflix, Teva Pharmaceuticals, numerous law and business school academics, and various intellectual property bar associations. *Microsoft v. i4i Limited Partnership*, SCOTUSBLOG, <http://www.scotusblog.com/case-files/cases/microsoft-v-i4i-limited-partnership/>.

202. Transcript of Oral Argument at 19–20, *KSR Int'l Co. v. Teleflex, Inc.*, 550 U.S. 398 (2007) (No. 04-1350), 2006 WL 3422210.

203. *Id.* at 20. The context of Justice Souter's later questions made it clear that he was concerned about the effect on issued patents of a change in the standard of patent obviousness. He followed up on the above-quoted excerpt with a question about judicial economy: If the Supreme Court changes the law, "are there going to be 100,000 cases filed tomorrow morning?" *Id.* at 21.

204. Transcript of Oral Argument at 47–48, *Bilski v. Kappos*, 130 S. Ct. 3218 (2010) (No. 08-964), http://www.supremecourt.gov/oral_arguments/argument_transcripts/08-964.pdf.

General stated to the Supreme Court that it opposed granting certiorari in the case because two other industries, software and medical diagnostics, raised important issues.²⁰⁵ Justice Kennedy responded by saying that the Deputy Solicitor General “thought we’d mess it up.”²⁰⁶ Later, Justice Ginsburg noted that the case— involving claims directed to a method of hedging risk—could be resolved “without making any bold step.”²⁰⁷ The Court’s eventual ruling was short on details, consistent with the assertion that the Court should tread lightly in patent law due to concerns about retroactivity.

Other Supreme Court patent opinions also reveal that retroactivity concerns are considered.²⁰⁸ An example is the Supreme Court’s important *Festo* opinion.²⁰⁹ There, the Supreme Court reviewed a decision from the Federal Circuit that had created a hard and fast rule that had eliminated application of a theory of infringement—known as the “doctrine of equivalents”—if the patentee had taken certain actions during prosecution of the patent.²¹⁰ Many complained about the retroactive effects of the Federal Circuit’s opinion on issued patents because these prosecution actions had not invoked an absolute bar when they were undertaken.²¹¹ In reversing the Federal Circuit, the Supreme Court replaced the absolute bar with a flexible standards-based test to determine when the doctrine of equivalents was inapplicable.²¹² The Supreme Court’s flexible test relied in part upon foreseeability.²¹³ The foreseeability requirement attempted to soften the ruling by exempting past behavior which had unforeseeable consequences.²¹⁴ In other words,

205. *Id.* at 47.

206. *Id.*

207. *Id.* at 48.

208. It may also be that the Supreme Court’s view toward decision making is different from the Federal Circuit’s. See Peter Lee, *Patent Law and the Two Cultures*, 120 YALE L.J. 2, 75 (2010) (discussing the “methodological divergence of the formalistic Federal Circuit and the holistic Supreme Court”).

209. *Festo Corp. v. Shoketsu Kinzoku Kogyo Kabushiki Co.*, 535 U.S. 722 (2002).

210. *Festo Corp. v. Shoketsu Kinzoku Kogyo Kabushiki Co.*, 234 F.3d 558, 569 (Fed. Cir. 2000) (en banc), *vacated*, 535 U.S. 722 (2002).

211. See, e.g., Jonathan M. Harris, *Festo Has Decimated the Doctrine of Equivalents*, 65 TEX. B.J. 58, 59 (2002).

212. *Festo*, 535 U.S. at 740–41; J. Andrew Lowes & David L. McCombs, *Off on a Tangent: Using Festo’s Second Criterion to Rebut the Presumption of Surrender*, 88 J. PAT. & TRADEMARK OFF. SOC’Y 579, 579 (2006).

213. The Supreme Court’s test created a presumption that the doctrine of equivalents was inapplicable when the patent had been narrowed for reasons relating to patentability. The presumption could be rebutted if the patentee could show that (1) the equivalent at issue was unforeseeable at the time of the application, (2) the equivalent at issue was only tangentially related to the reasons for the amendment, or (3) there was some other reason why the patentee could not have drafted claims to literally cover the equivalent at issue. *Festo*, 535 U.S. at 740–41.

214. Subsequent Federal Circuit opinions have narrowly construed the flexibility provided by the Supreme Court in *Festo*. Because of this, many believe that the Supreme Court’s flexible bar test has been construed as almost an absolute bar. Accordingly, the real-world effects of the decision may have had substantial retroactive effects. However, the Supreme Court *considered* the possibility of them and *attempted* to address them.

the Supreme Court apparently attempted to mitigate retroactive effects of its opinion. Indeed, the majority opinion expressly acknowledged as much: “To change so substantially the rules of the game now could very well subvert the various balances the PTO sought to strike when issuing the numerous patents which have not yet expired and which would be affected by our decision.”²¹⁵ In sum, the opinions and questioning by the Justices point in the same direction; they both support the view that the Supreme Court considers retroactivity in making its patent decisions.²¹⁶

It is important to note that in some instances, the Supreme Court has recently discounted the relevance of past Patent Office practice. In *Association for Molecular Pathology v. Myriad Genetics, Inc.*, the Supreme Court confronted whether isolated DNA was patent eligible.²¹⁷ In a unanimous opinion, the Court found that isolated DNA was not patent eligible, despite the fact that the Patent Office had awarded such patents for well over a decade.²¹⁸ The Court noted that Congress had never endorsed the views of the Patent Office in subsequent legislation.²¹⁹ Thus, in the *Myriad* case, the Supreme Court issued a ruling with profound retroactive effects, and one that reversed longstanding practice by patent lawyers.

The executive branch also appears attuned to retroactive effects. The United States, through the Department of Justice, participates in some judicial decisions as an amicus filer. In *Festo*, the United States filed a brief as amicus curiae.²²⁰ That brief acknowledged the “legitimate expectations” of fair patent scope.²²¹ This indicates that the executive branch considers the effects of decisions on existing inventors.

215. *Festo*, 535 U.S. at 739 (quoting *Warner-Jenkinson Co. v. Hilton Davis Chem. Co.*, 520 U.S. 17, 32 n.6 (1997)).

216. In fact, one may argue that the Supreme Court is too concerned about retroactivity in patent law. Its decision in *Bilski v. Kappos* has been roundly criticized because of its lack of detail in critical aspects of the opinion. See, e.g., Shubha Ghosh, *Guest Post on Bilski: Throwing Back the Gauntlet*, PATENTLY-O (June 29, 2010), <http://www.patentlyo.com/patent/2010/06/guest-post-on-bilski-throwing-back-the-gauntlet.html> (arguing that *Bilski* suffers from a lack of clarity). There, the Supreme Court found Mr. Bilski and a co-inventor’s patent application unpatentable because it was directed to an “abstract idea.” *Bilski v. Kappos*, 130 S. Ct. 3218, 3222 (2010). The Supreme Court offered scant guidance for why the claim was an abstract idea and how to determine if other patent claims were directed to abstract ideas. Perhaps its fear of disrupting the patent community through a broad ruling caused the Supreme Court to be overly cautious. This is not to say that the Supreme Court perfectly considers retroactivity in patent law. One could argue that various Supreme Court decisions failed to adequately consider it, including *Graham v. John Deere Co. of Kansas City*, 383 U.S. 1 (1966), as well as Justice Stevens’s concurrence in *Bilski*, 130 S. Ct. at 3231 (Stevens, J., concurring in the judgment).

217. 133 S. Ct. 2107, 2111 (2013).

218. *Id.* at 2118.

219. *Id.*

220. Brief for the United States as Amicus Curiae Supporting Vacatur and Remand, *Festo Corp. v. Shoketsu Kinzoku Kogyo Kabushiki Co.*, 535 U.S. 722 (2002) (No. 00-1543), 2001 WL 1025650.

221. *Id.* at 2.

Similarly, when the Federal Circuit hears a case en banc, it is situated to consider retroactive effects. En banc cases typically deal with important issues and elicit numerous amici filings.²²² Thus, like the Supreme Court, the Federal Circuit can consider retroactive effects and draft opinions to minimize these pernicious effects.

These two mechanisms—Supreme Court review and Federal Circuit en banc review—have two important similarities. First, the courts in these circumstances recognize that the cases affect parties beyond those in the lawsuit. They recognize that their rulings will affect other parties, who often will not be similarly situated to the parties in the suit. They hopefully recognize that these effects include retroactive effects for some parties. Second, these courts receive input from the broader community. The amici process permits nonparties to share their views with the courts. In patent cases, both en banc and at the Supreme Court, there has been a plethora of amici filings.²²³ Consequently, at least in patent law, these views of the industries and other parties (including academics) are provided and available to the court.

B. Retroactivity in Other Areas of Law

The Supreme Court has a substantial body of law devoted to retroactivity of its decisions. In the civil context, the modern Supreme Court's doctrine regarding retroactivity was established in *Chevron Oil Co. v. Huson*,²²⁴ where the Court recast its existing case law to create a clear standard that would govern both criminal and civil law.²²⁵ *Chevron Oil* dealt with whether a previous Court decision—*Rodrigue v. Aetna Casualty & Surety Co.*²²⁶—which created a one-year statute of limitations for personal injury actions, applied to an action that was commenced before *Rodrigue* was decided.²²⁷ In *Chevron Oil*, the plaintiff was

222. One important exception is the Federal Circuit's hearing of cases en banc on a sua sponte basis without notice to the parties. *See, e.g.,* *Abbott Labs. v. Sandoz, Inc.*, 566 F.3d 1282 (Fed. Cir. 2009) (en banc, in part) (infringement of product-by-process claims); *DSU Med. Corp. v. JMS Co.*, 471 F.3d 1293 (Fed. Cir. 2006) (en banc, in part) (proof of inducing infringement claims). These decisions are made without the benefit of the insights of the community. Consequently, they are at heightened risk of unintended retroactive effects. Also, the Federal Circuit decided the important *Cybor* case en banc without permitting briefing by anyone other than the parties. *Cybor Corp. v. FAS Techs., Inc.*, 138 F.3d 1448 (Fed. Cir. 1998) (en banc). In that case, after oral argument and before the decision, the Federal Circuit provided notice that it would decide the issue of the standard of review of claim construction de novo. *Id.* at 1451. In its order granting en banc review, it noted that no additional briefs would be permitted. *Order Granting En Banc Review*, 122 F.3d 46, 47 (Fed. Cir. 1997). Without hearing the views of the community, the benefit of en banc review was substantially reduced.

223. *See* Chien, *supra* note 199, at 408 (finding about 1000 amicus filings from 1989 until 2009).

224. 404 U.S. 97 (1971), *abrogated by* *Harper v. Va. Dep't of Taxation*, 509 U.S. 86 (1993).

225. *Id.* at 106–107.

226. 395 U.S. 352 (1969).

227. *Chevron Oil*, 404 U.S. at 98–99.

injured while working on an artificial island rig owned by Chevron Oil Co.²²⁸ The injury occurred in December of 1965, but because it was not initially perceived to be serious, the plaintiff did not bring action until January 1968.²²⁹ This case dealt with the application of the Outer Continental Shelf Lands Act.²³⁰ When the original lawsuit was filed, the existing legal precedent indicated that admiralty law applied to personal injury suits.²³¹ However, during the pendency of the case, the Supreme Court decided *Rodrigue*, which determined that the Outer Continental Shelf Lands Act did not make admiralty law applicable to personal injury actions.²³² The issue, then, was whether the *Rodrigue* decision would bar the plaintiff's recovery.²³³

The Supreme Court in *Chevron Oil* held that it is appropriate to apply a decision prospectively if three criteria are met: (1) the decision would establish a new principle of law, by overruling past precedent on which the litigants may have relied or by deciding an issue of first impression in a way not easily predictable, (2) the retrospective operation of the rule in question would conflict with its historical purpose and effect, and (3) inequity would be imposed by retroactive application.²³⁴

Almost twenty years after *Chevron Oil*, the Supreme Court in 1991 outlawed the doctrine of selective retroactivity in a splintered decision with five separate opinions.²³⁵ That case concerned whether a previous Supreme Court case,²³⁶ which declared a Hawaii excise tax on imported alcohol unconstitutional, should apply retroactively to the state statute of another state. Prior to 1985, Georgia imposed an excise tax on imported liquor that was double the tax imposed on liquor manufactured within Georgia.²³⁷ The plaintiff sought a refund of taxes paid under the Georgia law for 1982, 1983, and 1984.²³⁸ Specifically, this case addressed selective prospectivity, which was adopted and later abandoned by the Supreme Court in the criminal context.²³⁹ In *James B. Beam Distilling Co.*, the Court held that selective prospectivity breached the principle that litigants in similar situations should be treated the same.²⁴⁰

228. *Id.* at 98.

229. *Id.*

230. *Id.*

231. *Id.* at 99.

232. *Id.*

233. *Id.*

234. *Id.* at 106–07. However, a rift soon began to develop between criminal and civil nonretroactivity doctrine. In 1982, the Supreme Court created different standards of nonretroactivity for criminal cases that were not final at the time the new decision was issued, in contrast to those for which the conviction had been finalized. *United States v. Johnson*, 457 U.S. 537 (1982).

235. *James B. Beam Distilling Co. v. Georgia*, 501 U.S. 529 (1991).

236. *Bacchus Imports, Ltd. v. Dias*, 468 U.S. 263 (1984).

237. *James B. Beam Distilling Co.*, 501 U.S. at 529.

238. *Id.*

239. Selective prospectivity in criminal cases was adopted in *Stovall v. Denno*, 388 U.S. 293, 297 (1967) and subsequently abandoned in *Griffith v. Kentucky*, 479 U.S. 314, 328 (1987).

240. *James B. Beam Distilling Co.*, 501 U.S. at 537.

The rejection of selective prospectivity was affirmed in *Harper v. Virginia Department of Taxation*.²⁴¹ *Harper* is another case seeking the refund of taxes previously paid. The majority in *Harper* held that when the Court applies a rule of federal law to the parties before it, every court must give retroactive effect to that decision.²⁴² In so holding, the Court explicitly extended *Griffith's* ban against "selective application of new rules."²⁴³

Even though *Harper* is somewhat unclear regarding whether prospectivity in general has been abolished for civil disputes, subsequent cases indicate that the Court has treated it as doing so. In *Landgraf v. USI Film Products*, Justice Stevens, writing for the majority, characterized *Harper* as establishing a "firm rule of retroactivity."²⁴⁴ For now, the lower courts have simply been treating *Harper* as standing for the proposition that if a court applies a new rule to the parties that are before it, the rule must apply retroactively to all cases pending on direct review or not final.²⁴⁵

Retroactivity in criminal law applies differently than in civil law. With its heightened due process concerns, criminal law is quite distinguishable from patent law. As such, case law in the criminal arena may not be completely applicable to retroactivity in patent law.²⁴⁶

241. 509 U.S. 86 (1993).

242. *Id.*

243. *Id.* at 97. However, debate among the Justices continued. Justices O'Connor and Rehnquist dissented on grounds that the *Chevron Oil* test should have been applied. *Id.* at 113. O'Connor's dissent also notes, in a somewhat troubled manner, that the majority's analysis seems to invalidate pure prospectivity as well as selective prospectivity, particularly with its references to a lack of constitutional authority to disregard current law. *Id.* at 115.

244. 511 U.S. 244, 279 n.32 (1994). *Landgraf* did not actually present a question regarding adjudicative retroactivity. Rather, it deals with claims of employment discrimination relating to sexual harassment under Title VII of the Civil Rights Act of 1964. *Id.* at 248.

245. See, e.g., *McKinney v. Pate*, 20 F.3d 1550, 1566 (11th Cir. 1994); *State v. Hooper*, 176 P.3d 911, 913 n.1 (Idaho 2007); *State ex rel. Brown v. Bradley*, 658 N.W.2d 427, 430 n.5 (Wis. 2003).

246. For completeness, a brief description of retroactivity in the criminal context is provided as follows. While the general historical rule was that judicial decisions apply retroactively, modern criminal retroactivity doctrine began to change this in the wake of a series of decisions in the 1960s. The Warren Court had made a series of criminal procedure decisions which threatened to invalidate a large number of convictions from prior years. The Supreme Court first addressed the retroactivity issue in this context in its 1965 decision of *Linkletter v. Walker*, 381 U.S. 618 (1965). There the Court held that the Constitution neither prohibited nor required an absolute rule of retroaction. Instead, the Court set forth a three-part test for whether a rule should be applied in a prospective fashion: the Court must look to (1) the purpose of the new rule, (2) the reliance placed upon the old doctrine, and (3) the effect that a retrospective application will have upon the administration of justice. *Id.* at 636. However, this holding was limited to cases that were being collaterally reviewed. One year later, in *Johnson v. New Jersey*, 384 U.S. 719 (1966), a case dealing with challenges surrounding the adoption of the new *Miranda* rights standards, the Supreme Court expanded the *Linkletter* holding to include those cases that come up on direct review.

The Supreme Court further restructured its criminal retroactivity jurisprudence in 1989 with *Teague v. Lane*, 489 U.S. 288 (1989). In a plurality opinion, the Court stated that,

C. Academic Approaches to Retroactivity

Most scholarship addressing retroactivity in areas other than criminal law approaches retroactivity in very general terms. A notable exception is a seminal 1997 article by Professor Jill Fisch.²⁴⁷ Fisch conducted an overview of both adjudicative and legislative retroactivity, detailed issues which surround retroactivity in general, and proposed a new equilibrium approach in considering retroactivity problems.²⁴⁸ Fisch described several constitutional constraints on adjudicative prospectivity, the most prominent of which are based on principles of separation of powers and the nature of judicial power.²⁴⁹

Fisch argued that there are two countervailing policy considerations with respect to judgment: efficiency and fairness.²⁵⁰ Fairness concerns are predicated upon

subject to two exceptions, new constitutional rules of criminal procedure are not applicable to cases that become final before the new rules are announced. *Id.* at 307, 310. The two exceptions are cases where the change in the law places “certain kinds of primary, private individual conduct beyond the power of criminal law-making authority to proscribe,” or where the change is so fundamental that the new procedures are “implicit in the concept of ordered liberty.” *Id.* at 307 (citations omitted). The Court defined a rule as “new” for retroactivity purposes if it “breaks new ground or imposes a new obligation on the States or the Federal Government” or “if the result was not *dictated* by precedent existing at the time the defendant’s conviction became final.” *Id.* at 301 (emphasis in original).

Later cases compacted this analysis into one threshold condition and a three-part test. *See, e.g., Caspari v. Bohlen*, 510 U.S. 383, 389–90 (1994). The threshold condition is that the rule must be procedural rather than substantive. *Id.* at 390. Once this is established, the *Teague* test requires three inquiries. First, the date upon which the petitioner’s conviction became final must be determined. *Id.* Second, if the conviction became final prior to the rule, one must consider whether the rule is “new” according to the meaning ascribed by the *Teague* court. *Id.* Finally, the third question is does the new rule fall within the boundaries of the two exceptions. *Id.*; *Teague*, 489 U.S. at 307.

Supreme Court cases since *Teague* have primarily focused upon clarifying aspects of the test it set forth. In *Bousley v. United States*, 523 U.S. 614, 620 (1998), the Court affirmed *Teague*’s application to procedural rules only, and held that its test cannot apply in cases where a substantive change has been made, such as where the Supreme Court decides the meaning of a criminal statute enacted by Congress. In *Schriro v. Summerlin*, 542 U.S. 348, 353 (2004), the Supreme Court wrestled with a case brought about by a change in Arizona’s capital murder statute, wherein the Court distinguished between a procedural change in law, which shifted who would make a finding of fact, and a substantive matter, such as a change in the “range of conduct or the class of persons the law punishes.” Finally, *Danforth v. Minnesota*, 552 U.S. 264, 308–09 (2008), addressed a point that *Teague* had left unresolved by holding that states are allowed to give prisoners the retroactive benefit of Supreme Court decisions even if the Court has ruled that they are not retroactive under federal law. There is also a separate body of case law dealing with retroactivity under the Ex Post Facto Clause. *See, e.g., Smith v. Doe*, 538 U.S. 84, 92 (2003); *Collins v. Youngblood*, 497 U.S. 37, 54–55 (1990).

247. Jill E. Fisch, *Retroactivity and Legal Change: An Equilibrium Approach*, 110 HARV. L. REV. 1055 (1997).

248. *Id.*

249. *Id.* at 1076.

250. *Id.* at 1084.

reliance interests and generally support prospective application of new rules.²⁵¹ Efficiency arguments, on the other hand, tend to favor retroactive application of new rules.²⁵² Efficiency in this framework is defined as maximizing the benefits of legal change.²⁵³ Retroactive application of improvements in the law can help prevent windfalls and the creation of protected classes based upon opportunistic avoidance of new legal rules.²⁵⁴

These concerns led Fisch to call for a new approach based upon equilibrium theory.²⁵⁵ A stable equilibrium exists where the applicable legal rules are clear, have been promulgated by a higher legal authority, have been settled for a period of time, and have not been criticized or questioned by legal authorities.²⁵⁶ The theory here is based around the idea that decisions should not be applied retroactively where they disrupt a stable equilibrium.²⁵⁷ By allowing for a balance to be made between the two competing interests of fairness and efficiency, courts using an equilibrium theory of retroactivity would be able to conduct the kind of nuanced analysis required in retroactivity jurisprudence without relying on arbitrary criteria.²⁵⁸

Fisch's framework has not been adopted by the courts. Other academics are much less supportive of the existence of a prospectivity doctrine.²⁵⁹ There are other articles on retroactivity, including on retroactivity in criminal law, which for brevity reasons will not be discussed herein.²⁶⁰ There is very little academic work addressing retroactivity in intellectual property law.²⁶¹ In fact, only two articles

251. *Id.* at 1085.

252. *Id.* at 1088.

253. *Id.*

254. *Id.* at 1089.

255. *Id.* at 1111.

256. *Id.* at 1103. This approach is an extension of William Eskridge and Philip Frickey's work regarding the equilibrium theory of legal change. *Id.* at 1100.

257. *Id.* at 1123.

258. *Id.* at 1103.

259. *See, e.g.*, Bradley Scott Shannon, *The Retroactive and Prospective Application of Judicial Decisions*, 26 HARV. J.L. & PUB. POL'Y 811 (2003).

260. Richard H. Fallon, Jr. & Daniel J. Meltzer, *New Law, Non-Retroactivity, and Constitutional Remedies*, 104 HARV. L. REV. 1731 (1991). Articles on retroactivity in criminal law include Christopher N. Lasch, *The Future of Teague Retroactivity, or "Redressability," after Danforth v. Minnesota: Why Lower Courts Should Give Retroactive Effect to New Constitutional Rules of Criminal Procedure in Postconviction Proceedings*, 46 AM. CRIM. L. REV. 1 (2009); *see also* Katharine A. Ferguson, *The Clash of Ring v. Arizona and Teague v. Lane: An Illustration of the Inapplicability of Modern Habeas Retroactivity Jurisprudence in the Capital Sentencing Context*, 85 B.U. L. REV. 1017 (2005).

261. Relatively little work has been done regarding retroactivity in copyright law, likely because copyright eligibility is automatic, and as such is not disrupted by any changing eligibility requirements. *See* J. Nicholas Bunch, *Takings, Judicial Takings, and Patent Law*, 83 TEX. L. REV. 1747, 1755-56 (2005). The primary concerns with retroactivity in copyright law revolve around term extension of copyrights. *See, e.g.*, Tyler T. Ochoa, *Patent and Copyright Term Extension and the Constitution: A Historical Perspective*, 49 J. COPYRIGHT SOC'Y U.S.A. 19 (2002). For example, in *Eldred v. Reno*, 239 F.3d 372 (D.C. Cir. 2001), Judge Sentelle argued in his dissent that retroactive application of copyright term extension

about retroactivity in patent law could be located. In 2003, Professor Daniel R. Cahoy published an article in which he constructed a framework for a modified version of the retroactivity analysis laid out in *Chevron Oil Co. v. Huson*.²⁶² Unlike this Article, Cahoy focused on a prominent Supreme Court decision, *Festo Corp. v. Shoketsu Kinzoku Kogyo Kabushiki Co.*,²⁶³ and two en banc Federal Circuit decisions, *Symbol Technologies, Inc. v. Lemelson Medical, Education & Research Foundation*²⁶⁴ and *Johnson & Johnston Associates Inc. v. R.E. Service Co.*²⁶⁵ Cahoy argued that these three decisions have had retroactive effects on patent holders, which they surely did.²⁶⁶ Professor Cahoy's version of retroactivity differs from that presented in this Article for several reasons. First, he did not recognize the lack of prospective effects of many Federal Circuit opinions. Second, he focused on an entirely different type of opinion—a few significant Supreme Court and en banc Federal Circuit cases.²⁶⁷

Cahoy argued that courts need to make a realistic assessment of when rules are “new.”²⁶⁸ To do this, Cahoy urged full adoption of the equilibrium framework which was laid out in the 1997 article by Fisch.²⁶⁹ Fisch recommended using the stability of an area of law and the degree of reliance upon such stability to determine whether a law is “new” for the purposes of retroactivity analysis.²⁷⁰ As for the third factor of the *Chevron* analysis, Cahoy recommended that courts should simply set out broad categories of decisions that suggest greater scrutiny in their outcome.²⁷¹ He advised this rules-based approach because it would be too time consuming for the courts to independently analyze the facts of each case.²⁷² Cahoy advocated that the important second factor in the *Chevron* test be reduced.²⁷³ More specifically, Cahoy argued that courts should only look to the second factor when no clear answer is provided by the first and third factors.²⁷⁴ Cahoy argued that this is optimal because a robust use of the second factor, which he characterized as an avenue for the courts to give special weight to policy considerations, can encroach

violates the Copyright Clause of the Constitution. Ochoa, *supra*, at 119. Retrospective increases in copyright term length bring about a very different set of concerns compared to retroactive changes in patent law. These increases, if they effectuate a taking at all, can only be said to be taking from the public domain. See R. Anthony Reese, *Is the Public Domain Permanent?: Congress's Power to Grant Exclusive Rights in Unpublished Public Domain Works*, 30 COLUM. J.L. & ARTS 531 (2007).

262. Daniel R. Cahoy, *Changing the Rules in the Middle of the Game: How the Prospective Application of Judicial Decisions Related to Intellectual Property Can Promote Economic Efficiency*, 41 AM. BUS. L.J. 1 (2003).

263. 535 U.S. 722 (2002).

264. 429 F.3d 1051 (Fed. Cir. 2005) (en banc order).

265. 285 F.3d 1046 (Fed. Cir. 2002) (en banc).

266. Cahoy, *supra* note 262, at 46–47.

267. *Id.*

268. *Id.*

269. Fisch, *supra* note 247.

270. *Id.*

271. Cahoy, *supra* note 262, at 43.

272. *Id.*

273. *Id.* at 44.

274. *Id.* at 45.

upon the legislative function.²⁷⁵ Cahoy argued that courts should instead attempt to acknowledge that the legislature is more often the more appropriate venue to affect future changes in the law.²⁷⁶

Cahoy analyzed the three decisions through the Fisch framework. He concluded that *Festo* and *Symbol Technologies*²⁷⁷ should only be applied prospectively because they changed the rules in a manner against the expectations of the patent community.²⁷⁸ Cahoy asserted that *Johnson & Johnston*²⁷⁹ should be applied retroactively because the prior precedent was based upon a single case.²⁸⁰ Because he relied exclusively on Fisch's framework, he did not consider whether the court issued the ruling knowing of the retroactive effects the decision had.

Arti Rai briefly considered the issue of retroactivity in patent law.²⁸¹ Professor Rai emphasized the effects of judicial decisions in patent law on the investing community.²⁸² Eventually, Rai concludes that the Patent Office should have more authority for policy issues in patent law than the courts.²⁸³

IV. SOLUTIONS TO THE PROSPECTIVITY AND RETROACTIVITY PROBLEM

Finding solutions to the curious case of prospectivity and retroactivity in patent law is difficult. Set forth below are several potential solutions including relying less on precedential opinions, eliminating the practice of deciding cases en banc without notice to the public, and writing narrower opinions. This Part also addresses two other proposals, grandfather clauses and takings law, that would not be effective solutions to the problem.

A. Limit the Use of Precedential Opinions

One important method of reducing retroactive effects is to reduce the use of precedential opinions. While many people argue for more precedential opinions,²⁸⁴ such opinions increase the potential of retroactive effects. Within the hierarchy of potential appellate resolutions—precedential opinion, nonprecedential opinion, and summary affirmance—precedential opinions have the highest potential for negative reactions by the community. The reason is obvious: in a common law system, precedential opinions explain the law in detail. Precedential opinions are binding not only on all of the district courts and the Patent Office, but they also bind other Federal Circuit panels. Thus, any precedential opinion carries the potential for

275. *Id.* at 44.

276. *Id.*

277. *Symbol Techs., Inc. v. Lemelson Med., Educ. & Research Found.*, 277 F.3d 1361 (Fed. Cir. 2002).

278. Cahoy, *supra* note 262, at 52–53, 58–59.

279. *Johnson & Johnston Assocs. Inc. v. R.E. Serv. Co.*, 285 F.3d 1046 (Fed. Cir. 2002).

280. Cahoy, *supra* note 262, at 63–65.

281. Rai, *supra* note 196.

282. *Id.* at 1272.

283. *Id.* at 1281.

284. See, e.g., Richard B. Cappalli, *The Common Law's Case Against Non-Precedential Opinions*, 76 S. CAL. L. REV. 755 (2003).

extreme effects. Nonprecedential opinions are not binding or authoritative. To be sure, nonprecedential opinions may be persuasive and would have some effects on issued patents. However, the effects are likely substantially more muted than those from precedential opinions. And summary affirmances,²⁸⁵ in which the opinion of a lower tribunal is affirmed without any written explanation of the rationale, have the lowest possibility for retroactive effects. That is because summary affirmances have little to no effect for parties outside those represented in the dispute on appeal.

Of the patent infringement cases the Federal Circuit decides on the merits, the majority are decided via a precedential opinion.²⁸⁶ The use of fewer precedential opinions will reduce the likelihood of opinions with retroactive effects.²⁸⁷ The Federal Circuit should reserve the use of precedential opinions to those disputes for which it considers and understands the potential retroactive effects. To be prudent, the Federal Circuit should reduce the number of precedential opinions it issues.

To be fair, decreasing the number of precedential opinions has the potential to make judges less accountable. The judges could be less attentive to their opinions, as their effects would be small. Nonprecedential opinions also risk favoritism to certain parties. Parties in factually similar situations may be treated differently without precedent to bind a subsequent panel of the court. These costs of nonprecedential opinions must be carefully weighed against the benefits.

B. Eliminate En Banc Review of Cases Without Notice to the Parties

The risk of inadvertent retroactive effects is heightened when the Federal Circuit decides important cases without considering the views of parties outside of the litigation. In recent years, the Federal Circuit has reviewed cases en banc without providing prior notice to the community.²⁸⁸ In these cases, the Federal Circuit heard

285. Federal Circuit Rule 36 permits the Federal Circuit to affirm a decision of a lower court without any written opinion. According to the rule, summary affirmances are limited to situations when “an opinion would have no precedential value” and one of the following is present:

- (a) the judgment, decision, or order of the trial court appealed from is based on findings that are not clearly erroneous;
- (b) the evidence supporting the jury’s verdict is sufficient;
- (c) the record supports summary judgment, directed verdict, or judgment on the pleadings;
- (d) the decision of an administrative agency warrants affirmance under the standard of review in the statute authorizing the petition for review;
- or
- (e) a judgment or decision has been entered without an error of law.

286. During the 2010 court term, the Federal Circuit decided 220 patent appeals on the merits. Of these, 59% were decided via a precedential opinion. It decided 22% via a non-precedential opinion, and 19% via summary affirmance. Jason Rantanen, *Federal Circuit Dispositions, Part I*, PATENTLY-O (Feb. 14, 2011), <http://patentlyo.com/patent/2011/02/federal-circuit-dispositions-part-i.html>.

287. Another less conventional solution is to release precedential opinions in draft form. The parties and patent community could be permitted a comment period before the opinion became final.

288. *See, e.g., Abbott Labs. v. Sandoz, Inc.*, 566 F.3d 1282, 1291 (Fed. Cir. 2009)

the matter en banc on its own initiative, sua sponte.²⁸⁹ More problematic, it did not apprise the parties that it was considering the matter en banc. The parties briefed the matter in the ordinary course, and argued it before a standard three-judge panel. However, when the opinion was released, all of the active judges on the court had considered an issue in the case.

Potential retroactive effects are heightened by neglecting to inform the public of the en banc status of the case. Because other potentially affected companies or industries are unaware of the court's consideration of the issue, amici briefs are not submitted. The academic community and bar associations, knowing nothing of the en banc process, do not submit briefs. In these circumstances, the Federal Circuit is most vulnerable to failing to adequately consider important interests.

Federal Circuit Judge Newman has criticized the use of sua sponte en banc rulings. In a dissent in *Abbott Laboratories v. Sandoz*, she objected to the Federal Circuit considering the case en banc "without notice and without argument and without an opportunity for participation."²⁹⁰ She argued that "the court has deprived itself of input concerning the experience of precedent, of advice as to how this change of law may affect future innovation, and of guidance as to the effect on existing property rights."²⁹¹

These en banc rulings by definition are important; they typically overrule prior conflicting precedent. En banc rulings are the only way that the Federal Circuit has to expressly change the law. And, of course, they are precedential and bind all district and appellate courts, as well as the Patent Office. They occur relatively infrequently, especially compared to panel decisions. While these cases are few in number, the practice of hearing a case en banc without notice to the public should be eliminated.

C. Seriously Consider Retroactive Effects

The best antidote to the problem of retroactivity in patent law is for the Federal Circuit to fully and thoroughly consider the effects of its rulings on nonparties. This proposal is a modest one. Indeed, the courts in all areas of law and at all levels should always consider the potential effects of their rulings. Because retroactivity is a large problem in patent law in particular, the Federal Circuit should have heightened awareness when deciding cases.

Fully considering the effects of retroactivity does not necessarily mean that the Federal Circuit must alter who wins cases. Quite the contrary, the court can issue the same ultimate holdings. Opinions can be affirmed, reversed, or remanded as the judges prefer. However, the opinions themselves must be more carefully crafted.

(en banc, in part) (discussing infringement of product-by-process claims); *DSU Med. Corp. v. JMS Co.*, 471 F.3d 1293, 1304 (Fed. Cir. 2006) (en banc, in part) (discussing proof of inducing infringement claims); *Kingsdown Med. Consultants, Ltd. v. Hollister, Inc.*, 863 F.2d 867, 876 (Fed. Cir. 1988) (en banc, in part).

289. Judge Rader recently offered a defense of the use of sua sponte en banc rulings without notice. He stated that these cases are in "areas where the Court has reached a degree of unanimity in its thinking, and we understand that before we sua sponte articulate that." Edward D. Manzo, *Interview with Chief Judge Rader*, IP LITIGATOR, July–Aug. 2010, at 10, 11.

290. *Abbott Labs.*, 566 F.3d at 1302 (Newman, J., dissenting).

291. *Id.*

Extraneous statements that serve little point in an opinion, other than perhaps to bolster an already supported argument, should be omitted.²⁹² This is particularly the case when the extraneous statement may have unknown and potentially serious effects on issued patents. In other words, the Federal Circuit should exercise judicial minimalism more frequently. It should issue its opinions and focus only on the most important facts and laws supporting its opinions.

D. Grandfathering of Issued Patents and Pending Applications

Another potential solution is to presumptively exempt issued patents and pending applications from legal rulings. Unless the Federal Circuit expressly stated in an opinion that it was intended to have retroactive effects, issued patents and pending applications would be saved from its reach. Because this is not the practice in other areas of law, it does not seem advisable to attempt with patent law. Perhaps a framework such as that proposed by Fisch²⁹³ would be workable. Such an approach would force the Federal Circuit to thoroughly consider potential retroactive effects of its rulings.

Furthermore, the law could provide a limited right to amend issued patents and pending applications within a short time period after certain Federal Circuit decisions. This right to amend could permit patentees to avoid unpredictable changes to the values of their patents. However, the potential for abuse is rife. Permission to amend patents postissuance may result in unfair advantage by patentees. It could also result in selective retroactivity, whereby the opinion was only retroactive to certain parties. Consequently, such a proposal is likely unworkable in patent law.

E. Takings Law

Several academics have suggested that takings doctrine is appropriate in patent law.²⁹⁴ Following this logic, takings law could solve any problem created by retroactive Federal Circuit opinions.²⁹⁵ In my opinion, a remedy under the current Federal Circuit theory of the takings laws would be inappropriate. While others may disagree, it is not clear that takings law would fairly and properly solve the problem with retroactivity. For the sake of completeness, takings law and theory are briefly discussed below.

Professor Adam Mossoff argues that the Federal Circuit's *Zoltek Corp. v. United States*²⁹⁶ decision was incorrect in holding that patents are not secured by the Takings Clause.²⁹⁷ Mossoff argues that the decision is wrong in view of several

292. CASS R. SUNSTEIN, ONE CASE AT A TIME: JUDICIAL MINIMALISM ON THE SUPREME COURT 3–6 (1999).

293. Fisch, *supra* note 247.

294. *E.g.*, Bunch, *supra* note 261, at 1755–56 (arguing that takings law should apply to judicial decisions that substantially depart from settled precedent in patent law because patents are property).

295. *Id.*; Adam Mossoff, *Patents as Constitutional Private Property: The Historical Protection of Patents Under the Takings Clause*, 87 B.U. L. REV. 689 (2007).

296. 442 F.3d 1335 (Fed. Cir. 2006).

297. Mossoff, *supra* note 295.

Supreme Court rulings on the issue.²⁹⁸ Mossoff, while acknowledging that the history of the takings doctrine is not crystal clear, asserts that patent rights should be treated as constitutional private property.²⁹⁹ The Supreme Court, as Mossoff notes, has recently reaffirmed that the nineteenth century Supreme Court precedent treated patent rights as “legitimate expectations of inventors in their property.”³⁰⁰ Therefore, he argues that certain government actions may constitute a compensable taking of a patent.³⁰¹ Applying his argument to judicial decisions, one may argue that certain Federal Circuit rulings amount to a taking. However, given the holding of *Zoltek*, and the fact that *Zoltek* was a sovereign immunity case,³⁰² current Federal Circuit law does not support such a position.

Along similar lines, the Supreme Court considered whether to permit removal of information from the public domain in the copyright context.³⁰³ Admittedly, patent cases do not involve the same First Amendment concerns potentially attendant in copyright cases. Retroactivity in patent law also involves altering private rights (of patentees and potential infringers). But these rights are similar to rights of the public in the public domain.³⁰⁴

CONCLUSION

Judicial decisions in any area of law may have retroactive applications. Patent law decisions, in particular, are exceptionally likely to have such applications. This is because patents last for a relatively long time, which increases the risk that judicial decisions arise that affect their value. Patents are effectively unamendable, so they cannot be adapted to reflect revisions to the law. Interestingly, most patent decisions have almost no noticeable prospective effect. The linguistic flexibility in the patenting process permits attorneys and inventors to prospectively avoid the holding of most decisions. Thus, the full brunt of Federal Circuit decisions is felt by existing patentees.

The decisions change the rules for existing patents (and often pending applications as well). It is easier to identify the problem than to solve it. Solutions to this problem are difficult. They include reduced reliance upon precedential opinions and elimination of deciding cases en banc without notice to the parties. Further consideration of this problem is warranted.

298. *Id.* at 694.

299. *Id.* at 694–95.

300. Adam Mossoff, *Who Cares What Thomas Jefferson Thought About Patents? Reevaluating the Patent “Privilege” in Historical Context*, 92 CORNELL L. REV. 953, 1010 (2007) (quoting *Festo Corp. v. Shoketsu Kinzoku Kogyo Kabushiki Co.*, 535 U.S. 722, 739 (2002)).

301. *See id.* at 1009–11.

302. 442 F.3d 1345 (Fed. Cir. 2006).

303. In *Golan v. Holder*, 132 S. Ct. 873 (2012), the Supreme Court considered the following question: Does the Progress Clause of the United States Constitution, Article I, Section 8, Clause 8, prohibit Congress from taking works out of the public domain?

304. Recently, the Supreme Court rejected a challenge to the copyright laws. *Golan*, 132 S. Ct. at 894. The Supreme Court, after considering an international treaty, found that retroactive application of the law was warranted because such decisions are within the authority of the political branches and not the courts. *Id.* at 884–87.